WAYNE STATE UNIVERSITY

Undergraduate Bulletin 2019-2020

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UNDERGRADUATE BULLETIN

University Mission

Wayne State's mission is to create and advance knowledge, prepare a diverse student body to thrive, and positively impact local and global communities.

Our vision

Wayne State will be a pre-eminent, public, urban research university known for academic and research excellence, success across a diverse student body, and meaningful engagement in its urban community.

Our values

While our vision and mission show where we want to go, our values guide us on the way. They cut across organizational boundaries, bind us culturally, and permeate our strategic and tactical initiatives. They are the defining traits of the Wayne State community.

Collaboration: When we work together, drawing upon various talents and perspectives, we achieve better results.

Integrity: We keep our word, live up to our commitments and are accountable to ourselves and each other.

Innovation: We are unafraid to try new things and learn by both failure and success.

Excellence: We strive for the highest quality outcomes in everything we do.

Diversity and Inclusion: We value all people and understand that their unique experiences, talents and perspectives make us a stronger organization and better people.

Wayne State intends to remain one of the nation's most respected public research universities, and feels that these goals provide a way to make that happen. National recognition is not an end in itself; what matters most is how Wayne State's progress as shaped by these goals will position the university to benefit its students and, ultimately, its city, state, nation and the world.

GENERAL INFORMATION

History of the University

Wayne State University's story begins in 1868 with the founding of the Detroit Medical College, now the School of Medicine. In 1881, the Detroit Normal Training School was established, which is now the College of Education. The now-iconic Old Main Hall was built in 1896 as Central High School, which began adding college classes in 1913. Those classes evolved into the Detroit Junior College (offering a two-year general education program) in 1917, which became the College of the City of Detroit (with four-year degree programs) in 1923, and now is the College of Liberal Arts and Sciences.

In 1924, the College of Pharmacy was organized, and six years later the first regular graduate courses were offered in liberal arts and education. Frank Cody became the first president in 1933, with the existing colleges united into a university organization, eventually named Wayne University, taken from Wayne County in honor of General Anthony Wayne.

Wayne University continued to grow, adding the School of Social Work, the Law School, and the School of Business Administration. In 1956, it was renamed Wayne State University. In 1963, Wayne State was designated one of Michigan's three constitutionally established universities.

1868 — The Detroit Medical College, forerunner of the School of Medicine, was established.

1881 — The Detroit Normal Training School, forerunner of the College of Education, was established.

1917 — The Detroit Junior College, offering a two-year program in general education, was established in 'Old Main' and later developed into the College of Liberal Arts.

1923 — The Detroit Normal Training School became a four-year degree-granting institution under the name of the Detroit Teachers College. The first degrees were granted in 1924. The Detroit Junior College became the College of the City of Detroit with four-year degree programs. The first degrees were conferred in 1925.

1924 — The College of Pharmacy was organized.

1930 — The first regular graduate courses were offered in Liberal Arts and Education. The first Master's degrees were conferred in 1932.

1933 — The College of Engineering and the Graduate School were established.

1933 — The Colleges of Liberal Arts, Education, Engineering, Medicine and Pharmacy and the Graduate School were united by action of the Detroit Board of Education into a university organization, temporarily called the Colleges of the City of Detroit.

1934 — The name Wayne University was adopted, taken from Wayne County and, ultimately, from General Anthony Wayne.

1935 — The School of Public Affairs and Social Work was organized. In 1950 it became the present School of Social Work.

1937 — The Law School, established in 1927 as Detroit City Law School, came into the University.

1945 — The first doctoral programs were authorized in the fields of Chemistry, Physiological Chemistry and Education.

1945 — The College of Nursing, which began as a program in the College of the City of Detroit, became a separate college.

1946 — The School of Business Administration, originating in the College of Liberal Arts, became the tenth academic unit in the University.

1956 — Wayne University became Wayne State University by Act 183 of Michigan Public Acts of 1956.

1959 — Monteith College was established.

1959 — Wayne State University became a constitutionally established University by popularly adopted amendment to the Michigan Constitution.

1964 — The Division of Urban Extension was established.

1973 — The College of Lifelong Learning was established as successor to the Division of Urban Extension.

1973 — The College of Pharmacy and Allied Health Professions was established.

1985 — The School of Fine and Performing Arts and the College of Urban, Labor and Metropolitan Affairs were established.

1989 — The name of the School of Fine and Performing Arts was changed to the College of Fine, Performing and Communication Arts.

1993 —The College of Science was established.

2001 — The name of the College of Pharmacy and Allied Health Professions was changed to the Eugene Applebaum College of Pharmacy and Health Sciences.

2002 — The College of Lifelong Learning was discontinued and its programs transferred to other units.

2004 — The College of Liberal Arts and the College of Science were merged into the College of Liberal Arts and Sciences.

2005 — The College of Urban, Labor and Metropolitan Affairs was discontinued and its programs transferred to other units.

2008 — The Irvin D. Reid Honors College was established.

2009 — The Library and Information Science Program was established as the School of Library and Information Science.

2011 — The Warrior football team made its first appearance in the NCAA Division II championship game.

2015 — The name of the School of Business Administration was changed to the Mike Ilitch School of Business.

2017 — The name of the School of Library and Information Science was changed to the School of Information Sciences.

Location of the University

More than 100 buildings provide housing for the services, instructional and research needs of the University and its students and staff. Most academic and service units of the University are located on the main campus in Midtown Detroit, largely bounded by York Street on the north, Woodward Avenue on the east, Forest Avenue on the south and Trumbull Street on the west. The major classroom, laboratory, library and other academic buildings are located east of the John C. Lodge Freeway; most of the athletics and recreational facilities are on the west side of the freeway.

The School of Medicine and its affiliated teaching hospitals and clinics are located a short distance south and east of the main campus in the Detroit Medical Center. The Eugene Applebaum College of Pharmacy and Health Sciences is also located on the medical campus. Certain smaller instructional and service units are located in other parts of the metropolitan area

Academic Calendar 2019-2020

Fall Term: 2019

University Year Appointments Begin[1]	August 19, 2019
Priority Registration	March 25 - August 18, 2019
Open Registration	August 19 - August 27, 2019
Classes Begin	August 28, 2019
Late Registration, Late Adds	August 28 - September 4, 2019
Late Registration, Late Adds, Instructor Approval Required	September 5 - September 11, 2019
Holiday - University Closed	September 2, 2019
Last Day to Drop w/ Tuition Canceled (Census Date)	September 11, 2019
Early Assessment-Mid-Term Grading	September 11 - October 15, 2019
Degree Applications Due	September 27, 2019
Last Day to Withdraw	November 10, 2019
Holiday - No Classes	November 27, 2019
Holiday - University Closed	November 28 - November 30, 2019
Commencement	To Be Determined
Classes End	December 9, 2019
Study Day - Final Exams May Not Be Scheduled	December 10, 2019
Final Exams	December 11 - December 17, 2019
Holiday - University Closed	December 25, 2019 - January 1, 2020

Winter Term: 2020

Priority Registration	October 28 - December 29, 2019
Open Registration	December 30, 2019 - January 5, 2020
Classes Begin	January 6, 2020
Late Registration, Late Adds	January 6 - January 12, 2020
Late Registration, Late Adds, Instructor Approval Required	January 13 - January 17, 2020
Last Day to Drop w/ Tuition Canceled (Census Date)	January 17, 2020
Holiday - University Closed	January 20, 2020
Early Assessment-Mid-Term Grading	January 21 - February 24, 2020
Degree Applications Due	February 7, 2020
Spring Break - No Classes	March 9 - March 14, 2020
Last Day to Withdraw	March 22, 2020
Classes End	April 20, 2020
Study Day - Final Exams May Not Be Scheduled	April 21, 2020
Final Exams	April 22 - April 28, 2020
Commencement	To Be Determined
University Year Appointments End[1]	May 14, 2020

Spring/Summer Term: 2020

Priority Registration	February 3 - May 3, 2020
Classes Begin	May 4, 2020
Late Registration	May 4 - May 17, 2020
Last Day to Drop w/ Tuition Canceled	May 17, 2020
Holiday University Closed	May 25, 2020
Day Scheduled as a Monday[2]	May 29, 2020
Degree Applications Due	June 5, 2020
Holiday University Closed	July 3, 2020
Census Date	June 30, 2020
Last Day to Withdraw	July 12, 2020
Classes End	July 24, 2020
Study Day - Final Exams May Not Be Scheduled	July 25, 2020
Final Exams	July 27 - July 30, 2020

Spring Term: 2020

Priority Registration	February 3 - May 3, 2020
Classes Begin	May 4, 2020

Late Registration	May 4 - May 10, 2020
Last Day to Drop w/ Tuition Canceled	May 10, 2020
Holiday University Closed	May 25, 2020
Day Scheduled as a Monday[2]	May 29, 2020
Degree Applications Due	June 5, 2020
Census Date	June 30, 2020
Last Day to Withdraw	June 7, 2020
Classes End	June 19, 2020
Study Day - Final Exams May Not Be Scheduled	June 20, 2020
Final Exams	June 22 - June 23, 2020

Summer Term: 2020

Priority Registration	February 3 - June 23, 2020
Degree Applications Due	June 5, 2020
Classes Begin	June 24, 2020
Late Registration	June 24 - June 30, 2020
Last Day to Drop w/ Tuition Canceled	June 30, 2020
Holiday University Closed	July 3, 2020
Day Scheduled as a Monday [2]	N/A
Census Date	June 30, 2020
Last Day to Withdraw	July 29, 2020
Classes End	August 11, 2020
Study Day - Final Exams May Not Be Scheduled	August 12, 2020
Final Exams	August 13 - August 14, 2020

Administrative Dates for 2019-2020 Academic Year

Fall Term Begins	August 19, 2019
Fall Term Ends	December 31, 2019
Winter Term Begins	January 1, 2020
Winter Term Ends	May 14, 2020
Spring/Summer Term Begins	May 15, 2020
Spring/Summer Term Ends	August 14, 2020

[1] University Year Appointments are a full nine months in length. Individual service assignments are the responsibility of the appropriate Dean, or, by delegation, the Department Chairperson

[2] An equal number of class days is needed for courses.

Academic Regulations

Academic Calendar

Each student, except those in the annual Doctor of Medicine program, is required to register at the beginning of each term of attendance according to the procedure and schedule published in the official University Schedule of Classes (http://www.classschedule.wayne.edu). Registration must be completed before the student may attend classes. For registration dates, the student should consult the Academic Calendar (p. 10).

Class Ranking

Ranks are determined according to the number of degree credits which the student has satisfactorily completed. The classifications are:

FRESHMAN	0 to 28.99 credits, inclusive
SOPHOMORE	29 to 55.99 credits, inclusive
JUNIOR	56 to 87.99 credits, inclusive
SENIOR	88 credits or above

Definition of Credits

A credit hour is an amount of work represented in intended learning outcomes and verified by evidence of student achievement that reasonably approximates not less than:

1. one hour of classroom or direct faculty instruction and a minimum of two hours of out-of-class student work each week for approximately fifteen weeks for one semester hour of credit, or the equivalent amount of work over a different amount of time; or
2. at least an equivalent amount of work for other activities, including laboratory work, internships, practica, studio work, and other academic work leading to the award of credit hours.

Normal Program Load

A full-time undergraduate student is one who is enrolled for twelve or more credits during a semester. The definition of a normal course load will vary depending upon the requirements of each program. In general, for completion of undergraduate degree requirements in four years, full-time students should average fifteen to eighteen credits each semester during the academic year. Undergraduate students may not elect more than eighteen credits per semester except by written consent of the Dean or advisor. Individual Schools and Colleges may set credit restrictions below those specified here; for details see their respective sections of this bulletin.

Auditing Courses

To audit a course, a student must indicate that he/she wishes to audit the course rather than receive academic credit, at the time of registration. Registration to audit a course is subject to the following regulations:

1. Students must pay the tuition assessment for the course, which is the same as if it were taken for academic credit;
2. A student is not permitted to take quizzes and examinations in audited courses;
3. A student may not normally change from audit status after registering for the course. In some cases, exceptions may be permitted during the term with the written recommendation of the instructor and the written approval of the Dean of the college/school in which the student is enrolled. The instructor's recommendation and Dean's approval must be included with the student's Drop/Add Form indicating the desired change.

The Graduate School does not encourage students to audit graduate-level courses.

Dual Enrollment

Undergraduate Election of a Graduate Course: Highly qualified undergraduate students may, under special circumstances, take a 7000-level course for undergraduate credit only. A written petition initiated by the student's advisor must be approved by the graduate officer of the School or College, the professor teaching the course, and the Dean of the Graduate School. The petition, with all required signatures, must be turned in at the time of registration.

Senior Rule Graduate School Admission: In their last semester, undergraduate students with a 3.0 (or above) upper division grade point average who have completed all general education competencies (mathematics, basic composition, intermediate composition, oral communication, critical thinking, and computer literacy), have the option of taking a limited number of graduate credits. Graduate credit is awarded only for those courses taken in excess of baccalaureate degree requirements. Undergraduate and graduate courses combined may not exceed sixteen credits for the final semester of baccalaureate degree course work. A Senior Rule student must register for at least one credit which is required for the undergraduate degree in order to be eligible for this status. Students who have completed all required courses for the baccalaureate degree may not obtain Senior Rule status. Completion of the Application for Graduate Admission form is required, and students are advised to consult their advisors and the Office of Graduate Enrollment Services. Application deadlines for Senior Rule admission are the same as for regular graduate admission. Students who qualify and are recommended by the Department or College will be admitted for one semester. Graduate admission will be regularized upon evidence that the student has completed all requirements for the bachelor's degree.

The University permits a student to pay undergraduate fees for the graduate courses elected in a Senior Rule status. It is recommended that students elect only courses numbered 5000-6999 in their Senior Rule semester. Senior Rule may not be used in conjunction with AGRADE.

Dual Enrollment: Graduate students may register for undergraduate courses, however these courses will be recorded on the undergraduate transcript. All courses elected under this status will be assessed at the graduate rate. These courses cannot be used as graduate credit nor to meet requirements for any graduate degree.

Dual Registration at the University of Michigan: A student enrolled at either Wayne State University or the University of Michigan may elect a course or courses in the other institution if the course fits his/her program but is not available in his/her home institution. The student must have written approval of the department chairperson in his/her major area at the home college and the approval of his/her Dean. The election must also be approved by the department which offers the course. Students desiring to participate in Wayne State University - University of Michigan dual registration should obtain the necessary forms from the Office of the Registrar and pay the appropriate tuition at their home institution.

Undergraduate Course Numbering Systems

For the College of Education

0000-4999 —Undergraduate credit only.
5000-6999 —Undergraduate or graduate credit.

For Pharmacy Departments

0000-2999 — Preprofessional Courses.
3000-3999 — First Professional Year Courses.
4000-4999 — Second Professional Year Courses.
5000-5999 — Third Professional Year Courses.
6000-6999 — Undergraduate/Graduate Courses.

For All Other Schools and Colleges

0000-0999 — No degree credit; graded S and U.
— *Mike Ilitch School of Business:* Elementary courses auxiliary to the usual academic program.
—*College of Engineering:* Orientation courses.
1000-1999 — Primarily freshman courses; open to all undergraduates.
2000-2999 — Primarily freshman and sophomore courses; open to all undergraduates who have completed course prerequisites.
—*Mike Ilitch School of Business:* Primarily junior college courses.
—*College of Engineering:* Lower division courses; open to all undergraduates.
3000-4999 — Junior and senior courses; undergraduate credit. (Ordinarily freshmen and sophomores will not be permitted to register for these courses.)
—*College of Engineering:* Upper division courses.
5000-6999 — Junior and senior courses; undergraduate and graduate credit.

Undergraduate Grading System

Final grades are available on Academica (http://academica.wayne.edu). Grades are not mailed to students. Final grades are recorded under the following system.

Undergraduate Grades

A	Excellent	4.00 grade points per credit
A-minus	Excellent	3.67 grade points per credit
ANC	Excellent	no credit
B-plus	Good	3.33 grade points per credit
B	Good	3.00 grade points per credit
B-minus	Good	2.67 grade points per credit
BNC	Good	no credit
C-plus	Fair	2.33 grade points per credit
C	Fair	2.00 grade points per credit
C-minus	Fair	1.67 grade points per credit
CNC	Fair	no credit
D-plus	Poor	1.33 grade points per credit
D	Poor	1.00 grade points per credit
D-minus	Poor	0.67 grade points per credit
F	Failure	0.00 grade points per credit
P	Passed	
PNC	Pass	no credit
N	Not passed	

NNC	Not passed	no credit
S	Satisfactory	
SNC	Satisfactory	no credit
U	Unsatisfactory	
UNC	Unsatisfactory	no credit
M	Marginal pass	

* P, N, S, U, M, ANC, BNC, CNC, UNC, SNC, PNC, MNC, and NNC grades are not reflected in the grade point average. NR — No grade reported by the instructor

Passed — Not Passed Program

The University has a program whereby undergraduate students may elect to take courses in which they will be marked as *Passed* (P) or *Not Passed* (N) in place of a letter grade. The following regulations apply:

1. The student may elect one P-N course per semester with the consent of an advisor, but he/she may not elect more than six courses in all.
2. After classes have begun, a student may not change from Passed/ Not Passed to a letter grade election or vice versa.
3. Courses taken for P-N may be used to satisfy competency requirements; however, no course taken on this basis may be used to fulfill specific group or major requirements.
4. Credits for a P-N course may be used to fulfill graduation requirements but will not count in the grade point average. In the event the student enrolls in more than six P-N courses, those beyond the permissible maximum will be designated on the permanent record as not applicable toward graduation.

Mike Ilitch School of Business: Students in the School of Business may *not* take courses offered by the School of Business on a passed / not passed basis.

Incomplete — The mark of I

The mark of I is given to a student when he/she has not completed all of the course work as planned for the term and when there is, in the judgment of the instructor, a reasonable probability that the student will complete the course successfully without again attending regular class sessions. The student should be passing at the time the grade of I is given. A written contract specifying the work to be completed should be signed by the student and instructor. Responsibility for completing all course work rests with the student.

The mark of I will be changed to a letter grade when the student completes the course work as arranged with the instructor or, if the instructor has left the University, with the Chairperson of the department or other instructional unit. Work must be completed within one calendar year. There are NO extensions.

The mark of I will not be awarded if, in the instructor's judgment, it is necessary for the student to attend subsequent sessions of the class. If regular attendance is necessary to complete coursework, the student must register for the class for the semester in which attendance is planned. The student will be assessed tuition and applicable fees for the second registration. If the student decides to register for the course, subsequent to the assignment of an I, then the mark of I for the original election will be changed to a Withdrawal/Passing (WP), and the student will be responsible for tuition and applicable fees for the second registration. Students are responsible for notifying their department and the department offering the course that they have re-registered for the course so that the I is not changed to an F.

Any unchanged mark of I will, within one calendar year from the time it was received, be changed to a grade of F or failure. This will not be changed after the I is replaced.

Official Withdrawal Failing — The mark of WF

The mark of WF is given when the student withdraws from the course in accordance with University policy and the student had earned a failing grade as of the date the withdrawal is approved.

Official Withdrawal No Basis for Letter Grade — The mark of WN

The mark of WN is given to students when there is no basis for a letter grade.

Official Withdrawal Passing — The mark of WP

The mark of WP is given when the student drops the course in accordance with University policy and the student had earned a passing grade as of the date the withdrawal is approved.

Deferred — The mark of Y

The mark of Y is given when the student is up-to-date in the work of a course planned to continue beyond the semester (i.e., essay, thesis, dissertation and certain courses taken in sequence).

Auditor — The mark of Z

The mark of Z is given when the student has formally registered for the course for audit. The student's Academic Dean or his/ her designee must provide written audit authorization to the student at the time of registration.

Repeating Courses — The mark of R

COURSES REPEATED PRIOR TO WINTER TERM 1998:

If an undergraduate student repeats a course and completes it with a grade of A, B, C, D, or E, the following rules will apply in posting the students cumulative record:

1. The grade, grade points and credits for an earlier attempt will be eliminated from the student's grade point average computation.
2. The grade, grade points and credits of only the latest repetition will be included in the student's grade point average computation.
3. An R on the student's academic record will replace the original grade in the course repeated under this rule. Thus, the indicator R will appear for all attempts in a course except the last.

COURSES REPEATED WINTER TERM 1998 TO SPRING/SUMMER TERM 2006:

If an undergraduate student repeats a course and completes it with a grade of A, A-minus, ANC, B-plus, B, B-minus, BNC, C-plus, C, C- minus, CNC, D-plus, D, D-minus, or E, the following rules will apply in posting the student's cumulative record:

1. The grade, grade points and credits for an earlier attempt will be eliminated from the student's grade point average computation.
2. The grade, grade points and credits of only the latest retake will be included in the student's grade point average computation.
3. The original grade in the course repeated under this rule will remain on the student's academic record. Earlier attempts will be flagged for exclusion in the g.p.a. calculation and the latest attempt will be flagged for inclusion in the g.p.a. calculation.

COURSES REPEATED FROM FALL TERM 2006 TO THE PRESENT:

If an undergraduate student repeats a course and completes it with a grade of A, A-minus, ANC, B-plus, B, B-minus, BNC, C-plus, C, C- minus, CNC, D-plus, D, D-minus, or F, the following rules will apply in posting the student's cumulative record:

1. No student shall attempt to take a class more than four (4) times (for a definition of "attempt," see 5, below).
2. If a student anticipates an attempt to take a class for the third (3rd) time, he/she must meet with an academic advisor to receive permission for this attempt.
3. If a student anticipates an attempt to take a class for the fourth (4th) time, he/she must obtain written permission from the chair (or his/her designee) of the department offering the course and the chair (or his/her designee) of the student's home department.
4. When a course is repeated, credit is only granted once. The last grade and credit hours for a repeated course are used in computing a student's grade point average and for awarding credit hours applicable for a degree even if lower than the previous grade. However, a grade of WP (Withdrawal/Passing, no credit) or WF (Withdrawal/Failure, no credit) or I (Incomplete, no credit) will not replace a previous grade or credit hours for a course. All attempts to take a course will be recorded on a student's transcript, whatever the last grade and credit hours awarded may be.
5. Withdrawals, incompletes, as well as courses repeated in an effort to earn higher grades will count as attempts. If a student drops the class before a W would appear on the transcript, this is not counted as an attempt, i.e. the student does a drop or a drop/add to another course. If tuition has been assessed and the time for refunding tuition has passed but the time for having a W appear on the transcript has not, the tuition will not be refunded, but the registration will not count towards the allowed attempts.
6. Any student who has repeated three different courses must meet with an academic advisor for permission to repeat another course.
7. There shall be an appeals process to the dean's office of the colleges offering the course and the student's home department.

After a degree has been granted, no grade computed in that degree may be changed.

If a post-bachelor status student repeats a course originally taken under regular undergraduate status, the repeat will in no way modify the earlier attempt. The second election, however, will be averaged in the grade point base.

Mike Ilitch School of Business: No course in which a student has received a passing grade or mark may be retaken without the prior written approval of the Director of Student Services of the Mike Ilitch School of Business.

College of Engineering: No course may be retaken without the prior written approval of the respective department's Graduate Program Chairperson and the Associate Dean of Engineering for Graduate Studies. Students may not retake any course in which a grade of 'A' or 'B' was received.

Eugene Applebaum College of Pharmacy and Health Sciences: No course may be retaken without the consent of the advisor(s) delegated for each professional curriculum.

Transfer of Undergraduate Credits

Wayne State University policy accepts transfer credit from all accredited institutions of higher education, both community colleges and baccalaureate-granting colleges and universities.

No transfer grades apply in computing Wayne State grade point averages.

Transfer Credit from Regionally Accredited Institutions: Wayne State University will accept equivalent academic credit from regionally accredited baccalaureate-granting institutions, and up to sixty-four semester credits from community colleges and other regionally accredited institutions which offer Associate Degrees. (All credits will be evaluated in the latter case; the most relevant sixty-four credits will apply to the degree.) Courses must be completed with a grade of C or higher to transfer in to Wayne State.

Credit from Institutions NOT Regionally Accredited: Wayne State University will accept transfer credit from other accredited institutions, provided that the institution:

1. grants a baccalaureate or associate degree;
2. is fully accredited by an agency recognized by the Council on Postsecondary Education (COPA); and
3. the courses presented for transfer are shown to have equivalency or are determined to be of a traditional academic nature.

Transfer Credit from Institutions in Candidacy Status: Wayne State University will accept for transfer those credits for which a grade of B or higher was earned from institutions with candidacy status from a regional accrediting agency.

Technical, Vocational and Applied Credit: To facilitate transfer of students, Wayne State University will accept for transfer up to twelve semester credits earned in technical, vocational and applied (TVA) courses at two- and four-year colleges if such courses are determined to be related to a student's intended program. For students transferring from associate degree granting institutions, the twelve TVA credits will be included in the sixty-four credit limitation.

Transfer of Remedial or Developmental Course Work: Credit earned in courses designated remedial or developmental will not transfer.

Transfer of Redundant or Duplicative Course Work: Transfer credit will not be awarded for redundant course work (i.e., courses with substantially duplicative content). Credit will be awarded for only one course in any set of redundant courses.

Residency and Upper Division Requirements: Transfer students will be required to meet the University and College residency requirements and to obtain the same number of upper division credits in fulfillment of the baccalaureate degree as are required of native students in specific major programs.

Junior Standing: Wayne State University will award junior standing to all transfer students for whom fifty-six or more transferable semester credits have been accumulated, whether they are transferred credits or credit earned at Wayne State University. Junior standing will not guarantee automatic entry to major and professional programs in the Schools and Colleges. Transcripts will be individually evaluated to determine whether all prerequisites for major and professional standing have been met by native and transfer students.

Advanced Placement Tests

Superior performance in the College Board Advanced Placement Tests will entitle an entering freshman to consideration for advanced placement and/or advanced standing credit in the areas covered by the examination. These areas include American history, European history, art history, studio art, biology, chemistry, computer science, English, French, German, Latin, Spanish, mathematics, music literature, music theory, and physics. Advanced placement and/or advanced standing credit will be awarded and such credit may satisfy General Education Requirements (see General Education Program (p. 34)) in accordance with policies adopted by the appropriate Department. Interested students

should contact the Office of Undergraduate Admissions (https://admissions.wayne.edu).

College-Level Examination Program

The College Board sponsors the College-Level Examination Program (CLEP). This program gives students and prospective students the opportunity to demonstrate their academic proficiency at the freshman-sophomore college level in various areas and in specific subjects whether or not they have had previous formal college instruction in materials covered by the tests. As described by the College Board, the examinations are intended to provide a comprehensive measure of undergraduate achievement in the five basic areas of the liberal arts:

- English composition
- humanities
- mathematics
- natural sciences
- social sciences

They are not intended to measure advanced training in any specific discipline, but rather to assess a student's knowledge of fundamental facts and concepts, his/her ability to perceive relationships and his/her understanding of the basic principles of a subject. The content of the Examinations is similar to the content of those subjects ordinarily included in the program of study required of most general education students in the first two years of college.

The Subject Examinations are essentially end-of-course tests developed for widely taught undergraduate courses. They measure understanding of basic facts and concepts, as well as the ability to apply such understanding to the solution of problems and the interpretation of materials. Questions that require of a student only rote recall are avoided.

Superior performance in these examinations will be considered as a basis for granting advanced placement and/or advanced standing credit as well as for waiving parts of the General Education Requirements of the University (see General Education Program (p. 34)). For further information, please consult advisors, school or college offices, or University Advising Center at 313-577-8889.

Credit by Special Examination

Upon the recommendation of the Department Chairperson and with the written approval of the appropriate College or School office, a student may earn credit in a course in which he/she has not been regularly enrolled in this University, but which is offered by a Department, by passing a special examination. Credit by a special examination is restricted as follows:

1. Not more than sixteen credits may be earned in any one subject.
2. Credit will be recorded with grade to indicate the level of performance in the examination but will not be considered in computing grade point average.
3. Credit will not be considered residence credit.
4. To be eligible to earn Credit by Special Examination, a student must have been regularly admitted or have attended with guest status, have enrolled for one semester and have completed at least one course.

Students who intend to transfer to other schools are cautioned that Credit by Special Examination at one institution is infrequently accepted for transfer credit by another institution.

Grade Point Average

The grade point average (g.p.a.) is the numerical index of the student's scholastic average. Points are assigned to each letter grade (see University Grading System, above) for each hour of credit. To compute your grade point average, multiply the grade points assigned to each course grade by the number of credits for each course; add the results and divide by the total number of credits.

For example, a grade of A in a class carrying 3 credits would be assigned 12 grade points (3 x 4), and a grade of C in a class carrying 4 credits would be assigned 8 grade points (4 x 2). In this example, the grade point average is: 20 (total grade points) divided by 7 (total credits attempted) = 2.85 g.p.a.

Credit for special examinations, transfer credit, and courses in which a mark of I W, WF, WN, or WP or a grade of S, U, M, P, and N, has been earned are excluded from grade point average computation.

Law School: This grade point system does not apply to Law School students.

Obligations to the Instructional Process

Since education is a cooperative effort between teacher and student, both parties must fulfill obligations if the integrity and efficacy of the instructional process are to be preserved.

Responsibilities of Faculty Members

1. To contribute to and remain abreast of the latest developments in their fields;
2. To continually pursue teaching excellence;
3. To treat all students with respect and fairness without regard to ancestry, race, color, religion, political belief, national origin, gender, sexual orientation, age, marital status, disability, or veteran status;
4. To encourage differing viewpoints and demonstrate integrity in evaluating their merit;
5. To attend regularly and punctually, adhere to the scheduled class and final examination times, and arrange for notification of absence and coverage of classes;
6. To establish and maintain appropriate office hours;
7. To present, early in the semester, the following course information:
   a. course objectives and general outline;
   b. classroom procedures to be followed, expectations concerning class attendance, and proposed dates of major evaluations (including examinations, papers, and other projects);
   c. grading policy;
   d. where appropriate, a schedule of class-related activities, including class meetings and laboratory sessions;
   e. lists of texts and/or other materials needed for the course;
   f. late enrollment, withdrawal, and other special policies.
8. To provide and adhere, within reasonable limits, to the written syllabus of the course;
9. To know course matter thoroughly and prepare and present the material conscientiously;
10. To be informed of University services and recommend their use to students when advisable;
11. To follow these policies concerning written work and grades:
    a. grade and return written work promptly;
    b. submit final grades by the scheduled time;
    c. retain written materials not returned within the semester (e.g., final examinations, major term papers) for one academic

semester in accordance with unit policy and allow students to examine such materials;

12. To implement unit procedures for student evaluation of faculty teaching, with attention to preserving student anonymity;
13. To behave appropriately in dealing with students so as to maintain a scholarly atmosphere

Responsibilities of Students

1. To inform themselves of and to fulfill all requirements of the University and those of the College and Department from which they expect to receive their degree;
2. To fulfill conscientiously all assignments and requirements of their courses;
3. To attend classes regularly and punctually;
4. To maintain a scholarly, courteous demeanor in class;
5. To uphold academic honesty in all activities;
6. To notify the instructor as early as possible if prevented from keeping an appointment or carrying out an assignment;
7. To discuss with the instructor any class-related problem and follow established procedures in the resolution of these problems;
8. To adhere to the instructor's and general University policies on attendance, withdrawal, or other special procedures.

It is expected that faculty and students will fulfill their obligations to the instructional process. If, however, a complaint does arise, the parties should meet in an effort to resolve the matter. When such a discussion fails to resolve the problem or is inappropriate given the circumstances, the head of the academic unit should be contacted. If this contact fails to satisfy the complaint, the College's published procedures should be followed. Although the University Ombudsperson is not a direct part of the appeal process, students and faculty may consult the Ombudsperson at any point during such proceedings.

Classroom Attendance Policy for Undergraduate Students

Whenever attendance forms a basis for a portion or all of a course grade, students must be provided with explicit written information concerning that fact during the first week of classes. Such information shall be specific with regard to the penalty incurred for each absence and the means, if any, to compensate for the absence. It should be recognized that there may be certain situations where the student may not be permitted to make up the absence(s).

It is recognized that students may be required to miss classes on occasion as a result of their participation in approved University activities. Examples of such activities include formal participation on University sports teams, debate teams, and performing arts groups. These activities are generally directed by a University official, such as a coach, and usually have a set schedule of events.

Students participating in approved University activities should consult with instructors prior to registration, but no later than the end of the second week after the start of classes, to determine the class attendance policy. At this time, the student should provide the instructor with a schedule of planned absences, preferably signed by the University official directing the activity (e.g., Athletic or Program Director or his/her designee), in order to allow the instructor to evaluate and advise the student on the possible impact of the planned absences. In this case, the instructor will consider absences due to participation in approved University activities, as outlined above, to be excused absences, on par with those due to other unavoidable circumstances such as illness. For classes requiring mandatory attendance incompatible with the number of planned absences, students will be advised to register, if possible, during a semester in which they will not be participating in the University activity (for example, during the off-season for a sports team or during the summer).

It is the student's responsibility to learn the course material. When classes are missed, for whatever reason, it is the student's obligation to obtain copies of the class materials and students are responsible for all materials covered in the lectures. An excused absence does not excuse the student from completing assigned work, including exams.

This policy shall be applicable to all courses within the University.

Responsible Attendance and Performance

Students must show diligence and are normally expected to complete the courses they elect. Irresponsible attendance is wasteful of both student and University resources. Those students who consistently receive excessive marks of I (incomplete), WF (Withdrawal Failing), WN (Withdrawal No Basis for Letter Grade), or WP (Withdrawal Passing) may be refused the privilege of further registration by the dean or the dean's designee of their school or college.

Student Code of Conduct

High standards of student conduct play a major role in creating an environment of excellence and the Student Code of Conduct is used to maintain these standards. The code:

1. establishes the expectations that students are accountable for their behavior;
2. describes acceptable student conduct, both academic and non-academic;
3. describes disciplinary policies and procedures;
4. specifies the rights of students and other parties; and
5. specifies prohibited conduct and sanctions to be imposed if such conduct occurs.

Examples of prohibited conduct subject to the Student Code of Conduct include, but are not limited to, academic misbehavior, knowingly furnishing false information to the University, disorderly behavior, theft, damage of property, illegal drugs, weapons on campus, physical assault, unauthorized entry, violation of criminal law, etc.

The University Student Conduct Officer, housed in the Dean of Students Office, monitors the student disciplinary process and is responsible for coordinating matters involving student discipline; describing the disciplinary procedures; and informing students and other parties of their rights. Copies of the Student Code of Conduct can be found online (http://www.doso.wayne.edu/codeofconduct.pdf) at or in the Dean of Students Office, 351 Student Center.

Student Academic Ethics

Academic Records: The submission of fraudulent academic records for admission or transfer of credit by a student may be cause for the student's dismissal.

Academic Work: Academic work submitted by a student for credit is assumed to be of his/her own creation, and if found not to be, will constitute cause for the student's dismissal.

Student Rights and Responsibilities

Upon the recommendation of the Student-Faculty Council, the University (Faculty) Council, the President-Deans Conference and the President, the Board of Governors, in January, 1967, approved a comprehensive statement of Student Rights and Responsibilities for the University.

Copies of this document are available to students and faculty in the offices of the deans of each College and the Dean of Students Office.

Law School: The faculty of the Law School has approved a set of academic regulations specifically applicable to Law School students, copies of which are available to all students enrolled in the Law School.

Undergraduate Academic Probation

An undergraduate student whose cumulative grade point average (g.p.a.) falls below 2.00 will be placed on Academic Probation. An 'Academic Probation' status is placed on the student's record and the student shall be permitted to register only after consultation with, and approval has been granted by, a designated University advisor.

A student shall be given two subsequent terms for enrollment on probationary status. At the conclusion of the two terms, a student who has not achieved a cumulative g.p.a. of at least 2.00 shall be excluded from his/her program. A student excluded from the University may not apply for readmission or reinstatement for one calendar year.

Each School and College may establish more stringent Probation, Exclusion, and Appeal policies, and students should consult the appropriate Dean's Office. Students must consult with an academic advisor regarding appropriate deadlines for academic hold releases and/or reinstatement procedures.

Grade Appeal Procedure

Students should first seek to settle grade disputes informally with the instructor. Each College and School has established formal grade appeal procedures. These procedures are available from the Dean's Office of the College or School. In most instances, formal grade appeals must be filed within thirty days of the time the student has or should have received his/her final grade.

Academic Appeal Procedure

In matters where a College's signed final decision is based upon the evaluation of a student's academic performance, and when review procedures available to him/her within the College have been exhausted, the student may request the Associate Provost for Academic Programs to review that decision on the record. The academic appeal form must be submitted by the student himself/herself, **within thirty calendar days** of the postmark of the College's final decision, which is to be sent to the address provided by the student in the College's review procedures. The Associate Provost's review of the College's decision will proceed as soon as practicable after submission by the student of his/her wish to seek review. The form is located at https://provost.wayne.edu/academic-policy

Academic Nepotism Policy

Faculty members are not to place themselves, or allow themselves to be placed, in situations amounting to 'academic nepotism,' i.e., teaching or otherwise directing the credit study or research of a student who is also a close relative. Concomitantly, students are not to take courses from close relatives or engage in research for academic credit under the direction of close relatives. All such credit will be disallowed.

Fraud and Misuse of Documents

Intentionally furnishing false information to the University is explicitly prohibited, as is forgery, alteration, unauthorized possession, or misuse of University documents, records and identification cards. The University reserves the right to rescind degrees if the award of the degree was based in whole or in part on deception, fraud, other unacceptable academic conduct, or misuse of University documents.

Accreditation

Wayne State University as a whole is accredited as a doctoral degree-granting institution by the regional accrediting agency:

The Higher Learning Commission
230 South LaSalle St., Suite 7-500
Chicago, Illinois 60604-1411
telephone: 800-621-7440.

In addition, many specific programs and curricula are accredited individually by specialized or professional accrediting agencies. A report is produced annually for the Board of Governors which designates the accrediting agencies of the University's programs; the report is available from the Office of the Provost (https://provost.wayne.edu/apr/accreditations). The principal accreditation agencies are as follows:

Mike Ilitch School of Business

BS and BA, MBA, MS in Taxation, MS in Accounting, and PhD: *Accreditation Council of AACSB International – The Association to Advance Collegiate Schools of Business (AACSB)*

Education

Art Therapy Program: *American Art Therapy Association*

Counseling (graduate only): *Council for Accreditation of Counseling and Related Educational Programs (CACREP)*

School Psychology, MA and Graduate Certificate: *National Association of School Psychologists*

Rehabilitation Counseling and Community Inclusion (graduate only): *Council for Accreditation of Counseling and Related Educational Programs (CACREP)*

Teacher Education Programs: *Council for the Accreditation of Educator Preparation (CAEP)*

Engineering

Division of Engineering (undergraduate): B.S. degrees in Biomedical Engineering, Chemical Engineering, Civil Engineering, Electrical Engineering, Industrial Engineering, and Mechanical Engineering: *Accreditation Board of Engineering and Technology, Inc. (ABET, Inc.) Engineering Accreditation Commission*

Division of Engineering Technology (undergraduate): B.S. degrees in Electrical/Electronic Engineering Technology and Mechanical Engineering Technology: *Accreditation Board of Engineering and Technology, Inc. (ABET, Inc.)Technology Accreditation Commission*

Computer Science (undergraduate): B.S. degree in Computer Science: *Accreditation Board of Engineering and Technology, Inc. (ABET, Inc.) Computing Accreditation Commission*

Fine, Performing And Communication Arts

Communication (B.A. in Public Relations): *The Public Relations Society of America, Inc. (PRSA)*

Dance: *National Association of Schools of Dance (NASD)*

Music: *National Association of Schools of Music (NASM)*

Theatre: *National Association of Schools of Theatre (NAST)*

Information Sciences

MLIS: *American Library Association (ALA)*

Law

American Bar Association (ABA) and Association of American Law Schools (AALS) (Joint Committee)

Liberal Arts and Sciences

B.S. in Chemistry: *American Chemical Society (ACS)*

B.S. in Biochemistry and Chemical Biology: *American Society for Biochemistry and Molecular Biology*

Communication Sciences and Disorders (Doctor of Audiology and M.A. in Speech Language Pathology): *American Speech-Language-Hearing Association, Council on Academic Accreditation (CAA) in Audiology and Speech-Language Pathology*

Nutrition and Food Science (Coordinated Program in Dietetics): *Accreditation Council for Education in Nutrition and Dietetics*

Political Science (Master of Public Administration): *Network of Schools of Public Policy, Affairs and Administration (NASPAA)*

Psychology (Clinical Training Program): *American Psychological Association (APA)*

Urban Planning (Master of Urban Planning): *Planning Accreditation Board (PAB)*

Medicine

Continuing Medical Education: *Accreditation Council for Continuing Medical Education (ACCME)*

Doctor of Medicine Degree Program (M.D.): *Liaison Committee on Medical Education (LCME), representing the American Medical Association and the Association of American Medical Colleges*

Genetic Counseling (Master of Science in Genetic Counseling): *Accreditation Council of Genetic Counseling*

Graduate Medical Education Programs, Affiliated Hospitals' Resident Physician Programs: *Accreditation Council on Graduate Medical Education (ACGME)*

Master of Public Health: *Council on Education for Public Health*

Medical Physics/Radiation Oncology: *Commission on Accreditation of Medical Physics Educational Programs, Inc.*

Nursing

Nursing (Baccalaureate programs, M.S.N., and D.N.P.): *Commission on Collegiate Nursing Education (CCNE)*

Nurse-Midwifery Program: *Accreditation Commission for Midwifery Education (ACME) and Commission on Collegiate Nursing Education (CCNE)*

Eugene Applebaum College of Pharmacy and Health Sciences

Clinical Laboratory Science: *National Accrediting Agency for Clinical Laboratory Sciences (NAACLS)*

Mortuary Science: *American Board of Funeral Service Education, Inc. (ABFSE)*

Nurse Anesthesia: *Council on Accreditation of Nurse Anesthesia Educational Programs (COA)*

Occupational Therapy: *American Council on Occupational Therapy Education (ACOTE)*

Pathologists' Assistant Program: *National Accrediting Agency for Clinical Laboratory Sciences (NAACLS)*

Pharmacy (Doctor of Pharmacy): *American Council on Pharmaceutical Education (ACPE)*

Physical Therapy: *Commission on Accreditation in Physical Therapy Education (CAPTE), American Physical Therapy Association*

Physician Assistant Program: *Accreditation Review Committee on Education for the Physician Assistant, Inc. (ARC-PA)*

Radiation Therapy Technology (undergraduate): *Joint Review Committee on Education in Radiologic Technology (JRCERT)*

Radiologic Technology (undergraduate): *Joint Review Committee on Education in Radiologic Technology (JRCERT)*

Social Work

Bachelor of Social Work and Master of Social Work: *Council on Social Work Education (CSWE)*

Administration of the University

The general governance of Wayne State University is constitutionally vested in the Board of Governors, consisting of eight popularly elected members and the President of the University, who is named by the elected members. The President is the chief executive officer of the University and is charged by the Board of Governors with responsibility for its administration. For educational and administrative purposes, the University is organized into major academic units - schools, colleges, divisions, centers and institutes. The following schools, colleges and divisions constitute the heart of the University:

Mike Ilitch School of Business
College of Education
College of Engineering
College of Fine, Performing and Communication Arts
Irvin D. Reid Honors College
Graduate School
Law School
College of Liberal Arts and Sciences
School of Information Sciences
School of Medicine
College of Nursing
Eugene Applebaum College of Pharmacy and Health Sciences
School of Social Work

The Dean of the College or School is its chief executive officer. More than half the Colleges and Schools are organized into departments or divisions, each administered by a chairperson (or head). Academic standards, curricular development, course revision and similar academic matters are the primary responsibility of the faculty and dean of the College or School, although these matters are subject to review and approval by the Provost and Senior Vice President for Academic Affairs and by the President and, whenever they involve major educational policy decisions, by the Academic Senate.

The Graduate School is the central unit for the supervision and encouragement of graduate work in the University and has basic responsibility for the improvement and review of existing programs and the approval of new graduate programs. Except for applicants and candidates for the Doctor of Philosophy degree, the detailed supervision

of graduate students' work is conducted by the College and School and, where appropriate, by the departments.

All degrees are granted by the University through the Colleges and Schools, except that the Dean of the Graduate School, with the approval of the Graduate Council, recommends candidates for the Doctor of Philosophy degree, selected master's degrees and interdisciplinary graduate certificate programs.

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ANITA G. WELCH, Ph.D., Dean of the College of Education

Admission: Graduate School

OFFICE OF GRADUATE ADMISSIONS
5057 Woodward, Suite 6305
Detroit MI 48202
Telephone: 313-577-4723; Fax: 313-577-0131
http://wayne.edu/admissions/graduate

Admission: Graduate

To be considered for graduate admission, an applicant must hold or be completing an earned baccalaureate degree or its equivalent from a college or university of recognized standing and have adequate preparation with discernible ability to pursue graduate studies in the major field elected. These criteria are subject to standards set by the individual Colleges and Schools, which reserve the right to revise or amend their entrance requirements beyond the minimal requirements of the University. Note: Proof of the earned bachelor's degree must be submitted before regular admission will be granted.

Before any student can be considered for admission to graduate study, the following must be submitted to the Office of Graduate Admissions: A completed online Application for Graduate Admission and an official transcript from any college or university at which a bachelor's degree was earned. A transcript is considered official only if it is sent directly from the institution where the course work was completed and bears an official seal. International applicants are expected to submit additional documentation for regular admission. Note: The applicant is also responsible for arranging to take any examinations that may be specified by the Office of Graduate Admissions, the College, or the Department in which the student intends matriculation.

Some academic programs may require an additional departmental application for admission. Students are advised to contact the department to which they are applying and request full particulars on admission procedures.

In most departments (see the departmental sections of this bulletin for variants), a regular admission may be authorized for the domestic master's degree applicant upon the department's recommendation, if the applicant's grade point average is 2.75 ('C'=2.00) or above for the upper division (approximately the last sixty semester credits) of his/ her undergraduate course work and if he/she holds a bachelor's degree from a regionally accredited institution.

All baccalaureate graduates of unaccredited institutions must present a 3.00 ('B') or better upper-division grade point average to be considered for graduate admission. Course work completed after the baccalaureate which is presented as the qualifying basis for graduate admission cannot be applied toward a graduate degree at Wayne State University.

Doctoral applicants must present higher entrance qualifications than those required of master's degree applicants. A doctoral applicant is required to have an undergraduate grade point average of 3.0 ('B'=3) or above for the upper division of the undergraduate, bachelor's degree course work and must have completed an undergraduate major or substantial specialized work in his/her proposed doctoral major field. Certain departments require the completion of a master's degree with superior scholarship before considering acceptance of a student as a doctoral applicant. Applicants with less than a 3.0 grade point average in undergraduate course work may be eligible for admission to doctoral study if they have subsequently achieved a grade point average of 3.0 or better in substantial graduate course work in the proposed doctoral field.

The individual colleges reserve the right to refuse a non-resident admission if such admission prevents registration of a qualified Michigan resident. This ruling may not be invoked to secure admission to a Michigan resident if his/her grade point average entitles him/her to qualified status only.

Admission: Qualified Graduate

In most Departments, qualified admission to a master's or certificate program may be authorized if an applicant's grade point average is between 2.50 and 2.74 or if his/her degree is from a non-accredited institution, provided the major Department and the Graduate Officer of the appropriate School or College have reviewed the applicant's academic experience, extra-scholastic qualifications and reasons for pursuing graduate study and have recommended his/her admission to the Graduate School.

Upon recommendation of the Department and the Graduate Officer of the appropriate College or School, qualified status may be granted to an applicant whose grade point average is below 2.5, if, since the time his/her baccalaureate degree was conferred, he/she has shown substantial evidence of academic or extra-scholastic qualifications of such merit as to warrant special consideration.

Applications from students who have completed substantial course work at, and/or graduated from, institutions which were not accredited by one of the six regional U. S. accrediting institutions (MSCHE, NEASC, HLC, NWCCU, SACS, or WSCUC) at the time studies were undertaken, will have a special review. If requested, the applicant will be required to furnish documentation of the nature and level of the credit obtained, the bases on which the credit was awarded, institutional operating practices, library holdings, physical facilities, faculty qualifications, and any other matters that may be relevant to an evaluation of credit. The director of admissions is authorized to deny admission to any applicant whose previous education does not conform to Graduate School standards. The Office of Graduate Admission may also make recommendations concerning the appropriateness for transfer of previously completed graduate course work.

All graduate admission procedures and regulations are subject to revision by the University Graduate Council at any time.

Graduate Application Dates

The Office of Graduate Admission will make every effort to process applications in time for the semester of the student's choice. However, only complete applications received by the last recommended dates shown below are ensured academic review before the semester starts.

Unless an application and all supporting materials are received by the date indicated, there may not be adequate time for the desired program to review the application and make the admission decision.

Fall Term — Classes begin Late August: **apply by June 1**
Winter Term — Classes begin Early January: **apply by October 1**
Spring Term — Classes begin Early May: **apply by February 1**

For international students, the application form and all transcripts and documents must be on file in the Office of Graduate Admission at least four months prior to the start of the term in which the applicant plans to begin graduate studies.

Several Colleges and Departments have earlier deadlines. Doctoral programs also have earlier application deadlines. Students should consult the School/College and Department sections of this bulletin, the program's website, or the Office of Graduate Admissions for complete information.

Change of Graduate Status

A Change of Graduate Status is a type of admission only for those students who have previously been admitted to and registered as regular graduate students at WSU. For such students, a Change of Graduate Status is used to request:

1. to change from one graduate program or level to another graduate program or level; or
2. to add a second graduate program to the one in which the student is already enrolled.

A department's normal admission criteria apply to Change of Graduate Status applicants. The application form (http://gradschool.wayne.edu/current/forms.php) is downloadable from the Graduate School.

Students should submit the form and transcripts, if needed, to the Graduate Office of the School/College of the new program. Other admission documents required by the department should be submitted directly to the department. The School/College Graduate Office prepares and sends the application and documents to the department for decision. The Graduate Office notifies the student of the admission decision, and, if admission was approved, notifies the Records Office of the change to be made to the student's record. The department's regular admission deadlines apply. No fees are charged for a Change of Status application.

The Change of Graduate Status application should NOT be used by the following students: those who have never been admitted through the Office of Graduate Admissions, those who were admitted but did not register, those who were admitted on a Permit to Register or as Guest students, and those who have been registered in graduate classes only as Non-Matriculated students through the College of Liberal Arts and Sciences.

Graduate Non-Degree Admission

An applicant who wishes to take graduate courses but does not wish to be in a degree program may request admission on a non-degree basis. The eligible applicant will be admitted to a particular College but not to an individual major program. In most instances, a non-degree student may, with the Department's approval, register for any courses for which he/she has the necessary preparation.

The applicant for a non-degree graduate classification is cautioned that *only one semester of full-time graduate study, or part-time registrations not to exceed nine credits, is normally permitted in this classification*. Beyond these limits, registration as a non-degree student requires the approval of the Graduate Officer of the student's College. Not more than nine credits, subject to the approval of the Graduate Officer, may be applied at a later

date toward the residency and credit requirements for either the master's or Ph.D. degree. For the Ed.D. degree, credit earned beyond the nine-credit limitation will be reviewed by the appropriate Division and the Education Graduate Officer for possible application toward the degree.

If a student in non-degree status decides to seek admission to a graduate degree program, he/she should apply to the appropriate College Graduate Office for a Change of Status *before* completing nine credits. There is no assurance that credits earned while holding a non-degree classification will be acceptable in a degree program, or that prerequisites may not have to be specified if the student later becomes a degree applicant. Also, financial aid is not available to students in Non-Degree status.

Graduate Guest Admission

Graduate students actively pursuing degrees and who are in good standing at other accredited colleges and universities may be admitted to elect a limited number of credits at Wayne State University. Interested students may obtain a Graduate Guest Application (http://wayne.edu/admissions/graduate/applying/app-instructions) from the Office of Graduate Admissions. This must be signed by their home institution before it can be accepted for consideration. **A guest admission is valid for only one semester and must be renewed with each subsequent registration.** A maximum of twelve semester credits may be earned as a Graduate Guest Student. Admission as a Graduate Guest student does not constitute permission to register as a degree applicant.

Senior Rule

In their last undergraduate semester, Wayne State students with a 3.0 (or above) upper division grade point average have the option of taking a limited number of graduate credits. Graduate credit is awarded only for those courses taken in excess of baccalaureate degree requirements. Undergraduate and graduate courses combined may not exceed sixteen credits for the final semester of baccalaureate degree course work. A Senior Rule student must register for at least one credit which is required for the undergraduate degree in order to be eligible for this status. Students who have completed all required registrations for the baccalaureate may not obtain Senior Rule status. Completion of the *Application for Graduate Admission* is required, and students are advised to consult their advisors and the Office of Graduate Admissions. Application deadlines for Senior Rule admission are the same as for regular graduate admission. Students who qualify and are recommended by the Department or College will be admitted for one semester. Graduate admission will be regularized upon evidence that the student has completed all requirements for the bachelor's degree; it is the student's responsibility to provide this transcript.

As a courtesy, the University permits a student to pay undergraduate fees for the graduate courses elected in a Senior Rule status. It is recommended that students elect only courses numbered 5000-6999 in their Senior Rule semester. Senior Rule may not be used in conjunction with AGRADE.

AGRADE: Accelerated Graduate Enrollment

Several Colleges have established an accelerated combined undergraduate and graduate program (AGRADE) in which highly qualified seniors in the college may enroll simultaneously in some undergraduate and graduate programs of the College. A maximum of sixteen credits may be applied towards both undergraduate and graduate degrees in a student's major field if that program is an AGRADE participant. Those who elect the AGRADE program may expect to complete the Bachelor's and Master's degrees in five years of full-time study. AGRADE may not be used in conjunction with Senior Rule.

AGRADE Credits: Students may elect a minimum of three and a maximum of sixteen AGRADE credits. These will be used to complete the baccalaureate degree as well as to serve as the beginning of graduate study. Upon formal admission to a master's program, AGRADE credits are transferred as if they were graduate credits transferred from a graduate program at another university. The remaining graduate credits required for the master's degree will be earned in the conventional manner following formal admission to the graduate program.

Eligibility: AGRADE applicants must have an outstanding overall g.p.a. and have performed at a superior level in their major, as determined by the major department. The earliest date by which a student may apply for the AGRADE program is during the semester in which he/she completes ninety credits toward the undergraduate degree.

Application: A student seeking AGRADE status should present to the Graduate Admissions Committee of his/her major department all of the materials which that department requires for normal admission (except the GRE; where required, the GRE scores should be forwarded at the normal point in the formal graduate admission process).

Admission and program requirements are described in the respective School and College sections of this bulletin, the Undergraduate Bulletin, and department advising offices.

Permit to Register Status

This is a one-term-only admission status which may be granted to applicants with incomplete applications for graduate admission, at the discretion of the academic department, and upon presentation of evidence of an earned baccalaureate degree with an acceptable grade point average and the application fee. Registration beyond the initial semester requires the submission of a regular graduate admission application, official transcripts and other required documentation as determined by the university and department. Admission as a graduate Permit-to-Register student does not obligate Wayne State University to accept the applicant in the future for a graduate degree, nor is there any assurance that credit earned in this status will be accepted toward a graduate degree.

This option is not available in all University Schools and Colleges. Applicants are encouraged to discuss admission options with the staff of the Office of Graduate Admissions. In addition, financial aid is not available to students in Permit to Register status.

Michigan Intercollegiate Graduate Studies (MIGS) Program

The Michigan Intercollegiate Graduate Studies (MIGS) Program enables graduate students of Michigan public institutions to take advantage of educational opportunities at other Michigan public institutions offering graduate degrees. Any graduate student in good standing in a master's, specialist, or doctoral program at a member institution is eligible to participate with approval of the appropriate academic unit. Students on a MIGS enrollment pay tuition and other fees at the host institution. All credits earned under a MIGS enrollment are accepted by a student's home institution as if offered by that institution. *This type of enrollment is limited to one term for master's or specialist degree students, or two terms for doctoral degree students.* Students interested in this program should contact the Office of Graduate Admissions (https://wayne.edu/admissions/graduate/application-types) for further information.

University of Windsor — WSU Exchange Program Agreement

Wayne State University and the University of Windsor have entered into an exchange agreement whereby students from each institution may

enroll in selected courses at the other institution. Courses available are limited to those not offered at the student's home institution. Limitations also apply to the number of courses and credits a student may take under this agreement. Wayne State University and the University of Windsor students who wish to participate in the program must be in good standing at their home institution and must have prior approval of the appropriate academic unit that the course(s) will be accepted as part of the student's course of study. Students who participate in the Wayne State University/University of Windsor program pay tuition and fees at the home institution and receive credit for the course(s) only at the home institution. Students should consult the Director of the Office of Study Abroad for further information.

Post-Bachelor Admission

The Post-Bachelor status is granted to college/university graduates who wish to take Wayne State University courses through the 6000 level *for undergraduate credit only*. The status serves two groups of students:

1. Those who wish to pursue vocational or avocational interests without intending to use Wayne State University credit to earn another degree at Wayne State University;
2. Those who seek admission to a graduate program but need to raise their undergraduate grade point average and/or fulfill specific undergraduate course requirements for graduate admission consideration.

The following special rules apply to Post-Bachelor Admission:

1. **Under no circumstances will credit earned in this status apply toward a graduate degree program.**
2. The applicant must present evidence of a degree earned from an accredited institution (official transcript or diploma).
3. Post-Bachelor status students are not eligible for financial aid from Wayne State University, except in certain circumstances depending on the program; students should consult the Office of Student Financial Aid (http://www.finaid.wayne.edu) for a list of eligible programs.
4. Applications for Post-Bachelor status from students new to Wayne State University should be made to the Office of Undergraduate Admissions, Welcome Center, 42 W. Warren, Wayne State University.
5. An applicant who earned an undergraduate degree from Wayne State University, or who was previously admitted and registered in a Wayne State graduate program, should contact the Records Office to be re-admitted to the University as a Post-Bachelor student. Post-Bachelor applicants in the Colleges of Education and Nursing must obtain authorization directly from the College.

International Graduate Students

To be considered for graduate admission, international applicants must have completed an appropriate university-level program comparable in subject matter and credits to a program for which a bachelor's degree is awarded at Wayne State University.

The fact that a degree in another country may have a similar name to a degree offered in the United States does not mean the two degrees require similar lengths and content of study or that they should be accepted as equivalents. *All graduate applicants must:*

1. present an excellent scholastic record;
2. have sufficient financial resources for minimum tuition, supplies and living expenses; and
3. have a sufficient proficiency in English (see the section on English Proficiency Requirement — International Students, below).

FINANCIAL AID: University-sponsored financial assistance for international students is extremely limited and unconfirmed awards should not be included in financial projections.

English Proficiency Requirements

Graduate applicants who graduated from colleges/universities in other countries must demonstrate proficiency in English. To fulfill this requirement an applicant must satisfy one of the following criteria:

1. Complete baccalaureate degree requirements at an accredited U.S. institution or in a country where English is the native language.
2. Present an acceptable score on the Michigan English Language Assessment Battery (MELAB).
3. Present an acceptable score on the Test of English as a Foreign Language (TOEFL) or equivalent tests such as the IELTS or PTE.

Some units may elect to grant qualified graduate admission to academically-talented International Students whose TOEFL scores fall slightly below the University minimum score. Interested students should contact the chairperson or director of their prospective program, to determine whether the program offers such qualified admission. For further information on the English Proficiency policy, please consult the Office of Graduate Admissions.

Faculty Admission

Tenured Wayne State University faculty members holding the rank of Assistant Professor or above may be admitted to Wayne State graduate degree programs outside the faculty member's school/college, under certain specified conditions. Untenured tenure-track faculty members are not eligible to pursue a graduate or professional degree at Wayne State while in University employment. Faculty members who are not tenured and not on the tenure track may enroll in degree programs outside their own unit with the approval of the dean of their college. For further information, contact the Dean of the Graduate School.

Special Status Students

Visiting Doctoral Guest

The Graduate School may issue a Visiting Doctoral Guest certificate to persons with an earned doctorate who come to Wayne State for scholarly study under the sponsorship of a department. Such Guests may obtain University library privileges and attend classes upon invitation of the department. No official record of attendance is kept on such Guests. For further information, contact the Graduate School.

Visiting Scholar

The Graduate School may issue a Visiting Scholar certificate to persons who have an advanced degree, such as an M.D., or are earning a doctoral degree, and who have come to Wayne State for scholarly study under the sponsorship of a department. Scholars may obtain University library privileges and attend classes upon invitation of the department. No official record of attendance is kept on such Scholars. For further information, contact the Graduate School.

Admission: Undergraduate

Office of Undergraduate Admissions and Orientation

Welcome Center
42 W. Warren Avenue
PO Box 02759
Detroit, MI 48202
Telephone: 313-577-2100, Fax: 313-577-7536

http://wayne.edu/admissions

Service Hours: The Office of Undergraduate Admissions assists students by, telephone, and on a walk-in basis during posted service hours.

The Office of Undergraduate Admissions has the primary function of recruiting, admitting, and enrolling new undergraduate students to the University. This office also helps to coordinate the recruitment activities of individual departments, alumni groups, and students. The office organizes visits and programs at local high schools and community colleges as well as in the State of Michigan and selected regions outside of the State.

Also included in functions of the Office of Undergraduate Admissions are administration of the Presidential and Wayne State merit-based scholarships.

Application for Undergraduate Admission

An official application for Undergraduate Admission (http://www.apply.wayne.edu) should be completed online. There is a $25.00 application fee.

Freshmen Admission Guidelines

Admission to Wayne State is selective. In order to qualify for admission an applicant must submit an official high school transcript indicating college preparation, standardized test scores (ACT or SAT), and ability to undertake a college degree program. Admission decisions will be based on a full evaluation of each student's academic record. Students still in high school may apply after completion of their junior year.

Special Undergraduate Programs for Admission

The Center for Latino and Latin American Studies (CLLAS) and Academic Pathways for Excellence (APEX) both offer special undergraduate programs with additional admission standards. See descriptive information under the headings for: Center for Latino/a and Latin American Studies and Academic Pathways for Excellence (APEX).

Recommended High School Preparation

1. **English (four years recommended)**: Effective use of the English language is central to one's ability to succeed at the University and in the professions and occupations for which our students are preparing. Students entering the University should be able to:
   a. comprehend the main and subordinate ideas in written works, lectures, and discussions; and
   b. conceive ideas about a topic and be able to organize them for presentation in both verbal and written forms.
2. **Mathematics (four years recommended)**: While most careers for which University students are preparing require mathematical competency, an increasing number of careers in science and technical curricula require advanced preparation in mathematics. Entering students should be able to:
   a. understand ratios, proportions, percentages, roots and powers; and
   b. perform the mathematical operations of algebra and geometry.
3. **Biological and Physical Sciences (three years recommended)**: A basic understanding of the physical and biological sciences is essential for many fields of college-level study and is necessary if one is to comprehend our world and the impact of science and technology on it. Students should be acquainted with:
   a. concepts of matter, energy, motion and force and the natural laws and processes of the physical sciences in general;
   b. the science of life and living matter with special reference to growth, reproduction and structure; and
   c. laboratory methods.
4. **Social Sciences/History (three years recommended)**: Students should study different cultures and societies — their social systems, customs, communities, values, economies, governments, and politics. A knowledge of the main events and ideas that have shaped our nation and its place in the world should also be possessed by entering students. They should understand how the past bears upon the present condition and future course of mankind. As the social sciences improve one's appreciation of the scientific method and other approaches to critical analysis, an understanding of history is required for an informed exercise of citizenship in a free society.
5. **Foreign Languages (two years recommended):** Proficiency in a foreign language not only introduces students to non-English speaking cultures but also heightens awareness and comprehension of one's native tongue. Language is the basic instrument of thought, and the ability to read, speak and write in a foreign language permits one to understand another culture in a more fundamental way. Foreign language competency will open up career opportunities denied to those without it.
6. **Fine Arts (two years recommended)**: Students entering the University should be acquainted with the visual and performing arts, through study and/or participation. Several academic disciplines at the University require high levels of skill in the arts. Study in this area enriches life and heightens one's sense of beauty and aesthetic perception.
7. **Computer Literacy:** Some formal instruction in the logic and use of computers in problem solving and data retrieval is increasingly important in all fields of study.

Transfer Admission

Transfer students are considered for admission if they meet the following minimum requirements:

A transfer applicant may be admitted, without consideration of high school work, upon completion of at least twenty-four semester credits of transferable college-level coursework from an accredited college or university with an overall grade point average of 2.5 and with no courses below a C grade for transferable credit. If the applicant has fewer than twenty-four semester credits of transferable college-level coursework, the applicant may be admitted provided freshmen admissions guidelines are met, subject to a holistic evaluation of each student's record. Students who have attended unaccredited institutions should consult with an admission counselor to determine admissibility.

The Office of the Registrar governs the polices for the transfer of credit (p. 48) from other accredited institutions of higher education, both community colleges and baccalaureate-granting colleges and universities.

MACRAO Agreement

Wayne State University has signed an agreement making it easier for Michigan community college students to transfer to our institution. By becoming a signatory institution to the MACRAO (Michigan Association of Collegiate Registrars and Admissions Officers) agreement, WSU formally acknowledges that community college transfers who have select associate degrees or MACRAO-stamped transcripts from a community college will have met University General Education Requirements, thereby expediting these students' path to graduation. This recognition will commence for students transferring to Wayne State beginning in Fall 2013. The conditions governing this agreement stipulate that Michigan community college students covered by the MACRAO agreement will still need to the senior-level writing intensive requirement and any

requirements specific to a particular school/college or department within the student's major field of study. Information can be found online. (http://www.macrao.org/Publications/MACRAOAgreement.asp)

Michigan Transfer Agreement (MTA)

The MTA is a more recent agreement than MACRAO. The MTA will take effect for students who begin their studies in the Fall 2014 semester, and it will eventually replace the MACRAO Agreement. Students who started prior to Fall 2014 will be able to complete the existing MACRAO Agreement until the end of the summer 2019. The thirty credits of lower-level General Education from the sending Michigan community college will be accepted as a block of thirty credits by Wayne State University as long as students earn at least a 2.0 in each course. Students may complete the MTA as part of an associate degree or as a stand-along package. These thirty credits of lower-level General Education should be met according to the following distribution:

- One course in English Composition
- A second course in English Composition or 1 course in Communication
- One course in Mathematics
- Two courses in Social Sciences (from two disciplines)
- Two courses in Humanities and Fine Arts (from two disciplines and excluding studio and performance classes)
- Two courses in Natural Sciences including one with laboratory experience (from two disciplines)

If these courses do not add up to thirty credits then the student must take an additional course from one of these groups. The MTA's block of thirty transfer credits will fulfill the majority of Wayne State's General Education curriculum, and all courses will count toward students' overall degree requirements. All Wayne State lower-level General Education requirements will be fulfilled by the MTA with the exception of either oral communication or intermediate composition. Because the MTA applies only to lower-level General Education, students will still need to satisfy our upper-level requirement for the Writing Intensive (WI), which is fulfilled in the student's major field of study. Additionally, students must fulfill all requirements specific to school/ college and academic programs.

Special Requirements and Professional Admission

The following Schools, Colleges and programs have requirements beyond those of regular undergraduate admission:

- Business (p. 67)
- Engineering (p. 135)
- Engineering Technology (p. 162)
- Fine, Performing and Communication Arts (p. 173)
- Nursing (p. 321)
- Pharmacy and Health Sciences (p. 329)
- Social Work (p. 351)

International Undergraduate Students

A student from another country desiring admission who is not a permanent resident or citizen of the U.S. should complete the International Admissions Application (https://wayne.edu/admissions/international). There is a $25.00 non-refundable application fee. A student from a country in which English is not the native language must take an English Language Proficiency Examination prior to admission or have a minimum Test of English as a Foreign Language (TOEFL) score of 550 (213 on computerized version). See the Office of International Programs for more information.

Canadian Applicants

Applicants who are a citizen or permanent resident of Canada should complete the Canadian Admissions Application (https://wayne.edu/admissions/canadian). There is a $25 non-refundable application fee.

Non-Matriculated Status

Non-matriculated status enables students to take undergraduate courses for which the prerequisites are met. Courses, credits and grades will be posted to the University's transcript. However, these will be used toward fulfillment of a degree only after formal admissions is granted through the Office of Undergraduate Admissions. Students are encouraged to meet with an academic advisor prior to registering for courses. The non-matriculated application should be completed online (https://wayne.edu/admissions/non-matriculate). There is a $25.00 non-refundable application fee. The holder of non-matriculated status is ineligible for any type of loan, grant or scholarship that is administered by Wayne State University.

Post-Bachelor

Post-bachelor admission is an optimal choice for students who have already completed a bachelor's degree and are interested in either earning college credit without intending to use it toward another degree, and those students needing to complete prerequisite course work to gain admission to a graduate program.

Undergraduate Guest Admission

Students currently attending an accredited institution of higher education who are interested in taking undergraduate courses at Wayne State for one semester, or who wish to register for courses concurrently, are eligible to apply for Guest Admission (https://wayne.edu/admissions/guest). Requirements include the completion of twelve semester credits at the home institution and a minimum cumulative 'C' grade point average (equivalent to a 2.0 grade point average at Wayne State).

Re-Entry Following an Interruption in Attendance

Undergraduate students who were previously admitted and registered at Wayne State University and whose attendance has been interrupted need not reapply at the Office of Undergraduate Admissions. It is expected that students who left in good standing report to the College of their choice for any special instructions regarding their return to classes.

University of Windsor Exchange Agreement with Wayne State University

Wayne State University and the University of Windsor have entered into an exchange agreement whereby students from each institution may enroll in selected courses at the other institution. Courses available are limited to those not offered at the student's home institution. Limitations also apply to the number of courses and credits a student may take under this agreement. Wayne State University and the University of Windsor students who wish to participate in the program must be in good standing at their home institution and must have prior approval of the appropriate academic unit that the course(s) will be accepted as part of the student's course of study. Students who participate in the Wayne State University/University of Windsor program pay tuition and fees at the home institution and receive credit for the course(s) only at the home

institution. Students should consult the Director of the Office for Study Abroad for further information.

Phoenix Program (Second Start)

The Phoenix Program provides undergraduate students who left Wayne State University on Probation or Dismissal with the opportunity to petition for return under a second-start policy. To be eligible for such admission, the student must not have enrolled at Wayne State University for at least five consecutive years, immediately prior to petition for the Phoenix Program. Petitions for re-entry are decided by the Dean of the School or College in which the student is matriculated or seeks to enter. With the approval of the Dean, the student and an academic advisor develop an academic contract, and the advisor closely monitors the student through the first twelve credits of course work.

To return to regular status, students must complete twelve semester credits with a grade of C or better within two years under the Phoenix Program (NOTE: a grade of C-minus is considered to be lower than a C). Students will be expected to complete degree requirements in effect at the time of their return to the University. Should students earn any grade below C in their first twelve credits in the Phoenix Program, they will be excluded from the University. To maintain the integrity of students' academic records, previous course work will remain on the transcripts; however, the credits and grade point average (g.p.a.) will be adjusted to reflect the grade point average earned since the start of the Phoenix Program.

For information about the Phoenix Program, students should contact the Dean's office of the School or College in which they have matriculated or wish to enter.

Bachelor's Degree Requirements

To earn a bachelor's degree at Wayne State University, a student must satisfy the following *minimum* requirements, as well as any other requirements for specific degrees stipulated by the Schools/ Colleges, Departments, and Programs of the University:

1. Complete a minimum of 120 credits with a cumulative grade point average of 2.00 or higher for all Wayne State University course work.
2. Complete the University General Education Requirements (p. 34).
3. Complete all School/College, Departmental and Program requirements.
4. Complete a minimum of thirty credits at Wayne State University.
5. Observe the following credit limitations:
    a. Credit by special examination may not be counted as resident credit, but such credit, if earned during a semester in which the student is registered for a regular course(s), will not be considered an interruption of residence.
    b. There shall be no limit to the number of credit hours earned through one or more of the following programs: credit earned by the College-Level Examination Program, Advanced Placement, International Baccalaureate, Credit by Special Examination, or other credit earned for a course in which the student has not been regularly enrolled in a University course.
    c. Not more than sixteen credits by Special Examination may be earned in any one subject.
    d. A maximum of sixty-four credits transferred from a two-year institution may normally be applied toward graduation. Articulation agreements for specific programs may occasionally include more than sixty-four transfer credits, subject to board-approved academic policy.

Second Bachelor's Degree

A student who holds a bachelor's degree from any accredited institution may receive a second bachelor's degree from Wayne State University by satisfying the following minimum requirements:

1. Complete at least thirty credits at Wayne State University beyond the first bachelor's degree.
2. Meet all School/College, Department, and Program requirements for the degree.

Concurrent Degrees

A student who wishes to simultaneously receive two different bachelor's degrees from Wayne State University must satisfy the following minimum requirements:

1. Complete a minimum of 150 credits.
2. Complete all University, School/College, Department, and Program requirements for each degree.

Application for Graduation

Degrees are NOT awarded automatically upon completion of scholastic requirements. To be considered as a candidate for a degree, students must file an Application for Degree form with Student Records by the degree application deadline published in each term's Academic Calendar, for the term in which the student expects to graduate.

Bulletin-in-Effect Graduation Policy

All undergraduate students at Wayne State University may choose to graduate under the academic regulations and degree requirements as stated in the Bulletin in effect at the time of their graduation or any of the bulletins in the previous seven academic years, provided one of the Bulletins covers a period of the student's registration. All requirements of the chosen Bulletin must be met. However, if necessary, the university-wide Bulletin-in-Effect Committee, Colleges, and Schools can make appropriate adjustments in order to accommodate students as best they can to adapt their previous coursework to a new Bulletin.

School/College Requirements

Schools/Colleges, Departments, and Programs may establish degree requirements above and beyond those stated here. For statements of any such specific degree requirements, students should consult the School/ College and Departmental sections of this bulletin.

Application for Degree or Certificate

Each candidate for a degree or certificate must file an Application for Degree (https://wayne.edu/commencement/apply-for-graduation), no later than the Friday of the fourth week of classes for the semester in which the student expects to complete the requirements for the degree or certificate. If an application for a degree was filed for a previous graduation term in which the student did not graduate, a new application and fee is required. Applications for graduation require that a $40.00 fee be paid in the online application process.

Commencement

Information concerning commencement announcements, caps and gowns, invitations, tickets, time and place, assembling and other relevant items will be mailed to the graduates by the Commencement Office (http://commencement.wayne.edu) prior to the event. Candidates for advanced degrees are requested and expected to attend the commencement at which the University confers upon them the honor of the degree earned.

Campus Life

Dean of Students Office

301 Student Center; 313-577-1010

The Dean of Students Office provides services and affords opportunities to enhance student life and campus activities. The Office coordinates major campus student activities and events, including Orientation Part 2 (O2), New Student Convocation and Festifall, Student Organizations Day, Homecoming, and the Finals Week Late Night Breakfast.

The office coordinates the campus calendar of student activities, community service programs; advises fraternities and sororities; and promotes student involvement in co-curricular life at Wayne State and Detroit including the Thursdays in the D series, the Discover Detroit series, the Weekends in the D series, the Arts in the D program, and the Campus Activities Team program board. The office also coordinates the Warrior Pride program focused on school spirit, and the Warrior Zone athletic events student section. The University Student Conduct Officer is housed in the Dean of Students Office and the office also coordinates the Student Care Report process

The Dean of Students serves as the Deputy Coordinator for Title IX and the Student Life Wellness Coordinator resides in the Dean of Students Office and focuses on sexual violence prevention education, substance abuse prevention education, and digital citizenship education.

Student Organizations

There are over 400 recognized student organizations including such diverse categories as academic/professional, social action, political, sororities/fraternities, honoraries, ethnic and religious groups, as well as student governments. Student organizations use the Dean of Students Office to process their event planning and all students use the Dean of Students Office to learn about getting involved in campus life. The Office staff also assists students who want to organize new student groups. The staff also coordinates various campus publications including the on-line newsletter Get Involved at Wayne. Student organizations can apply to the Student Activities Funding Board for funds to present events, programs, and activities on-campus.

The official student newspaper is the South End (http://www.thesouthend.wayne.edu).

Parent and Family Services

The Dean of Students Office coordinates Wayne State's Parent and Family Services. Through this office, parents and family members receive the twice monthly parent and family newsletter and have services available to them to help them help their students be successful, including the parents helpline: 1-877-WSU-PARENT. The office may be e-mailed at: parents@wayne.edu.

Student Senate

395 Student Center
http://www.studentsenate.wayne.edu

The Student Senate is the recognized student government of Wayne State University. It consists of twenty-eight members, fourteen members at large elected in a University-wide election, and fourteen appointed members, one student representative appointed by the Office of Housing and Residential Life, and one representative appointed by the Associate Vice President for Educational Outreach to represent the extension centers. The Student Senate has an official advisory responsibility in policy formation for the governing of student activities at Wayne State. The Student Senate is advised by the Dean of Students Office

Office of Housing and Residential Life

582 Student Center; 313-577-2116
http://www.housing.wayne.edu

Housing and Residential Life at Wayne State fosters student learning and success through engaging residents in an intentional living-learning community. Supported by safe, comfortable and convenient residence hall, apartment and dining environments, residents grow in self-awareness and cross-cultural understanding as they practice social and group development as members of a diverse group of Wayne State learners.

Facilities and programs administered by this Office are located just steps away from classrooms, libraries, the Student Center, and the Recreation and Fitness Center and combine the convenience and activity of the campus with the energy and pace of downtown urban living.

Parking: Faculty, Staff, and Visitor

42 W. Warren, Suite 257, Welcome Center (8:30 a.m. - 5:00 p.m., Mon. - Fri.); 313-577-2273
http://www.parking.wayne.edu

The University maintains numerous parking facilities available to faculty, staff and visitors on a fee basis. The easiest way to approach parking, for faculty, staff and students, is to purchase a semester-long assigned parking pass. This allows unlimited entry and access to a designated structure or lot, which you'll choose based on availability and where you spend most of your time on-campus.

All new parking pass customers will pay a one-time fee for an RFID tag ($25 at the time of issuance), which hangs from their rear-view mirror to allow for quick, hands-free entry and exit. The hang-tag is linked to a student, faculty or staff person's OneCard and all current/future parking assignments. If the hang-tag is lost, parking patrons can simply swipe their OneCard to enter their assigned structure or lot. Lost hang-tags should be immediately reported to the parking office to be deactivated. A replacement tag must be purchased at $25.00 and is required to avoid ticketing or towing.

General parking is also available for visitors and those without a parking assignment. This allows patrons to pay as they go, with access to any of the general parking areas. Students, faculty and staff can deposit funds onto their OneCard for easy in-and-out access. Students only can take advantage of the discounted student OneCard parking rate ($3.75 at time of publication and $4.75 for premium parking areas). The general public may park in designated WSU lots and structures at the public rate, typically between $7.50 and $10.00, using a credit/debit card for entrance and exit and cash at limited locations.

Campus Health Center

Helen DeRoy Apartment Building, Suite 115
5200 Anthony Wayne Drive; 313-577-5041

The Campus Health Center provides comprehensive health care services for students, including physical examinations, family planning, illness visits, and immunizations (including flu, meningitis, hepatitis B, etc.). Visits are by appointment, but walk-ins are accepted for students experiencing an illness. Counseling referral services are also available. All currently enrolled students receive one free office visit per semester. Additional visits are billed to student's health insurance with most health care plans accepted. Students without insurance have reduced fees

based on a sliding scale and ability to pay for additional office visits per semester. Payment is accepted at the time of service by cash, OneCard, Visa, MasterCard, Discover, or American Express credit cards. To make an appointment, call 313-577-5041.

Police and Public Safety Services

6050 Cass; 313-577-2222
http://www.police.wayne.edu

The Wayne State University Police Department patrols and services the University including the city streets, businesses, and private residences within and between the various campus areas. The Department, to the extent that resources allow, also patrols and provides other police services to the neighborhoods and businesses in the area surrounding the University.

Police service is provided twenty-four hours a day, seven days a week. All officers have, at minimum, a bachelor's degree. They are commissioned as Detroit Police Officers, with full police authority on and off campus, after training at a State-certified Police Academy. Any matter requiring the services of a police officer can be reported at any hour of the day or night.

Blue Light System — Emergency Telephones (7-2222): The University has installed outdoor emergency telephones throughout the campus. These emergency telephones are identified by bright blue lights.

Emergencies (313-577-2222): All emergencies should be reported immediately, i.e.: all crimes, missing/stolen property, automobile accidents, suspicious persons, injured persons, vandalism, break-ins or burglaries.

Accidents (313-577-2222): Ambulatory patients will be transported, by officers, to either Detroit Receiving Hospital or the University Health Center. The Police Department does not provide ambulance service but utilizes the Detroit Fire Department Emergency Medical Service to handle other than minor injuries.

Fire or Other Extreme Hazards (313-577-2222): Emergencies such as fire, smoke, explosions, broken gas or water mains, severe electrical hazards, etc., should be reported.

Crime Prevention Section (313-577-6064): The Police Department's Crime Prevention Section provides a number of crime prevention services, including personal safety seminars, crime prevention programs, and services. All programs and services are free of charge (except the Rape Aggression Defense Training for which there is a fee of $25.00) to any Wayne State department, student, staff, or faculty member. Examples of services provided include:

- Security Services
- Street Smarts seminars
- Operation Identification
- Alcohol Awareness
- Rape Aggression Defense Training

The Crime Prevention Section also publishes monthly 'CampusWatch' articles. Email inquiries may be made to: campuswatch@wayne.edu.

Athletics, Intramurals and Recreation

Matthaei Facility: 126 Matthaei Building; 313-577-4295
Intramural Sports: Mort Harris Recreation and Fitness Center; 313-577-6712
Intercollegiate Athletics: 101 Matthaei Building; 313-577-4280
http://wsuathletics.com.

Wayne State University has a rich athletic tradition dating back to the fall of 1917 and recently celebrated 100 years of singular outreach and academic success. The first Detroit Junior College athletic event (precursor of Wayne State University) was a basketball game against the Detroit College of Law on January 19, 1918. Since then WSU student-athletes have captured numerous honors, including national championships awarded by the NCAA and conference championships. In the past ten years, 276 WSU student-athletes have been recognized as All-American. In the 101 year history, 644 students have been so recognized. Over seventy percent (70.26%) of the nearly 400-plus student-athletes currently involved in competitive athletics have a 3.00 or better cumulative grade point average. According to the latest federally mandated report, WSU student-athletes graduation rate is eighty-three percent (83%). The athletic department provides competitive opportunities in the following sports: baseball, men's and women's basketball, men's and women's cross country, men's and women's fencing, football, men's and women's golf, softball, men's and women's swimming/diving, men's and women's tennis, volleyball, and women's indoor/outdoor track. Last season, nine out of eighteen programs competed in NCAA championships. In 2012, women's swimming and diving won the NCAA National Championship joining ten other programs to be so honored. The past seventeen years WSU Athletics has had its seventeen highest ratings in the annual NACDA Cup and in twelve of the past fifteen years finished in the top 12% of the 319 institutions in Division II. The NACDA ranks the top overall competitive intercollegiate athletic programs in the country.

The University competes in both the NCAA Division I (men's and women's fencing) and Division II levels. The sixteen non-Division I University athletic programs compete in the Great Lakes Intercollegiate Athletic Conference (GLIAC). Members of the GLIAC are: Ashland University, Davenport University, Ferris State University, Grand Valley State University, Lake Superior State University, Michigan Technological University, Northern Michigan University, Northwood University, Purdue Northwest University, Saginaw Valley State University, and the University of Wisconsin-Parkside.

The fencing teams compete in the Midwest Fencing Conference with Ohio State, Cleveland State, Detroit Mercy, and Northwestern, among other schools.

The University offers a wide and varied program of recreational and intramural activities. The Matthaei Complex, and the surrounding athletic campus on forty-three acres of land, located on the west end of campus, offers a myriad of drop-in activity areas that include courts and fields for basketball, football, jogging, racquetball, soccer, squash, tennis, and volleyball, a weight training/exercise room, and swimming facilities. Use of these facilities is free with a current University ID or with a membership through the Mort Harris Recreation and Fitness Center. The recently built Doris J. & Donald L. Duchene, Sr. Athletic Facility features 35,000 square feet of usable space, four tennis courts and a sprint track. Open recreation hours and rental information for this facility are available at: http://rfc.wayne.edu/multipurpose/

Ticket and schedule Information is available at the Athletic Office (http://WSUathletics.com), 101 Matthaei Building, 313-577-4280. All men's basketball and football games are broadcast on the Warrior Radio Network at WDTK-AM 1400 and FM 101.5 and are also available for free on the internet. Students are admitted free to all University-controlled WSU athletic events with a One Card.

Sports Facilities

Matthaei Building

Matthaei is normally open from 7:00 a.m. to 8:30 p.m., Monday through Friday; and is closed to recreation on Saturday and Sunday, during the

fall and winter semesters. During the spring/summer semester the Building is open from 7:00 a.m. to 7:30 p.m., Monday through Friday. Outdoor tennis courts and track are available during posted hours. A facility schedule is published monthly. Operational hours are subject to change, and not all areas of the complex will be available at all times, due to scheduled classes, intramural activities and varsity athletics. Lap swim is available at the Matthaei for all affiliates and the lap hours are on the monthly recreation schedule, available online or hard copy at Matthaei. Locker and towel services are available for all affiliates daily with current OneCard at no charge. Locker rental plans both semester and yearly are also available. For charges and additional facility information, visit the Matthaei Shop in the Matthaei Building; or call 313-577-4295.

Mort Harris Recreation and Fitness Center

The Mort Harris Recreation and Fitness Center is open from 5:30 a.m. to 11:00 p.m., Monday through Friday; and 10:00 a.m. to 7:00 p.m. on Saturday and Sunday, during the fall, winter and spring/summer semesters. Operational hours are subject to change, and not all areas of the complex will be available for open recreation at all times, due to scheduled group fitness classes, intramural activities, club sport activities, and varsity athletics. Locker and towel services are available for all students and members with a current OneCard. Locker rentals are available for semester and yearly rentals. For charges and additional facility information, please visit the Mort Harris Recreation and Fitness Center (http://rfc.wayne.edu) website or call 313-577-2348.

Group Fitness Classes (non-credit)

These classes include a variety of programming, conducted by trained, certified and experienced instructors. Class options include yoga, cycling, Zumba, and a variety of strength and conditioning classes.

Open Recreation: The fitness areas, multi-purpose courts, walking track and climbing wall offer opportunities for unstructured play and participation. Basketball, volleyball, and a variety of equipment and areas for working out, stretching, and socializing are also available.

Intramural Sports Programs: Men's, Women's and Co-Rec intramural sports leagues are available for all currently enrolled WSU students as well as WSU faculty/staff members of the facility. Leagues and tournaments are available in a variety of sports, including basketball, volleyball, dodgeball, flag football, soccer, Esports and more.

Club Sports: The Mort Harris RFC is also the home for all Club Sports. Students interested in starting a particular club sport, are invited to consult our website (http://www.rfc.wayne.edu) to view the registration process and to become familiar with g.p.a., credit load, and insurance guidelines. All WSU Club Sports are fully funded by the participating students themselves. Current clubs include men's and women's soccer, men's lacrosse, men's and women's volleyball, quidditch, equestrian, rowing and cricket.

Fitness and Wellness Programs: Fitness assessments, personal training, and group fitness programs for every level of fitness are available to all students and members. All students and members have a free consultation included with their membership every year.

Climbing Wall: The facility offers ten top rope anchors with dozens of routes which change weekly. All necessary equipment may be rented; day and yearly passes are available.

Adventure Trips: The Mort Harris Recreation and Fitness Center offers a variety of outdoor excursions for novices to seasoned adventures. Trips include but are not limited to whitewater rafting, kayaking, skydiving, skiing and snowboarding, fishing, camping, and mountain biking.

Team Building: The high ropes course is designed to foster interpersonal and intra-personal growth in a fun and challenging environment. Your Student Organization, Department, Corporation or group will climb up thirty feet and traverse through fifteen different elements that focus on teamwork and interdependency. Groups will learn to communicate effectively, listen to each member, recognize individual strengths and utilize collaborative efforts.

Student Center Administration

Student Center Administration (313-577-4585) is located in the lower level of the Student Center. This office schedules rooms and audio-visual equipment available for meetings, seminars, conferences and special programs. Bake sale, literature and vendor tables as well as Community Arts and St. Andrews reservations are also provided.

Student Center Administration provides the following services for a fee: duplicating service, SMART and DDOT bus passes, fax service, and State Hall locker rentals. In addition, Student Center Graphics, University Lost and Found, and the campus bulletin board posting service are located here.

Student Center Graphics (313-577-3730): Student Center Graphics is a student operated design and print shop. They provide design services and large format printing for the campus community and outside clients. SCG also provides items such as banners, posters, logo designs and consultations for a fee.

Religious Organizations

Various religious denominations have offices on the sixth and seventh floors of the Student Center. Programs and personal and spiritual counseling are available from various denominations. A reflection room is available on the 3rd floor of the Student Center.

Computing and Information Technology Division (C&IT)

Office: 5925 Woodward Ave.
Tel.: 313-577-4722; Fax: 313-577-5500
Associate Vice President and Chief Information Officer: Daren Hubbard
http://computing.wayne.edu

Computing and Information Technology (C&IT) provides IT services and resources that support and enhance Wayne State University's teaching, learning, research, and administrative activities. C&IT's primary goal is to provide technology services that enable our students, faculty, and staff to be successful at WSU. C&IT employees strive to provide excellent customer service, respond to the changing needs of the University community, and make it easy and convenient for everyone to use technology at Wayne State. Functional C&IT organization charts are available on our website (https://computing.wayne.edu/about/org-charts.php).

AccessID

Everyone at Wayne State receives a unique identification code (AccessID) consisting of two letters and four numbers, for example: xy1234. The AccessID and password are key to accessing many University online systems; the Access ID can be found on the One- Card; passwords are assigned with initial email communications in the admissions application process.

Email and Communication Tools

Wayne Connect: The University's Wayne Connect system is a campus-wide method of communication. It is powered by Microsoft and features email, calendars, online storage, mobile apps, and more.

Broadcast Messaging (Emergency Alerts) (https://broadcast.wayne.edu)**:** This University-wide service delivers emergency alerts and other significant messages to faculty, students, and staff. Recipients can register their cell phones to get emergency alerts, grades, and other important information via text messages.

Mobile Apps

Wayne State Mobile App offers students, faculty, staff, and alumni an easy way to access University information like email, calendar, parking availability, class schedules, campus maps, OneCard balances, and more. Apps are available for free download on Android and iOS devices.

Academic IT Services

Canvas (https://tech.wayne.edu/kb/academic-services) is Wayne State's online learning management system. Students can take quizzes, upload assignments, participate in message boards and more. Free mobile apps for teachers and students are available.

Computer Labs (http://www.computing.wayne.edu/computer-labs)**:** The University libraries have both open and restricted-access computing areas, with more than 600 computers and a variety of applications. Additionally, many Schools, Colleges, and academic departments provide special-purpose computers and software for their students and faculty.

Grid Computing (http://www.grid.wayne.edu)**:** WSU researchers with projects requiring high performance computing can use Wayne State University's scalable, Grid-enabled computing system.

Administrative IT Services

Academica is the primary online means to securely register for classes, apply for financial aid, pay tuition, and more.

Internet Access (http://computing.wayne.edu/wireless)**:** WSU's wireless networks offer high-speed Internet access within campus buildings including the residence halls. We recommend connecting to WSU-SECURE whenever possible.

Research Networks: Internet2 and MiLR (http://computing.wayne.edu/research-networks)**:** Wayne State's membership in the Internet2 advanced networking consortium offers researchers countless opportunities for participation and collaboration. The Internet2 Network addresses researchers' bandwidth-intensive requirements, such as: collaborative applications, distributed research experiments, and grid-based data analysis.

Software Purchases and Discounts (https://computing.wayne.edu/helpdesk/freesoftware.php)**:** The C&IT Help Desk provides free and discounted software to current students, faculty and staff for academic, departmental and personal use.

Computer Security (http://security.wayne.edu)**:** Students can rely on C&IT to protect the confidentiality, integrity, and availability of information on WSU computer systems, but security is everyone's responsibility.

Help Desk (https://computing.wayne.edu/helpdesk)**:** The C&IT Help Desk is Wayne State's campus technology headquarters - a one-stop shop for all your tech support needs. Call, email, or live chat for one-on-one help with any of Wayne State's IT systems, like email, Canvas, or Academica.

Qualtrics Online Survey Software (http://computing.wayne.edu/qualtrics)**:** The Qualtrics Research Suite is a user-friendly, feature rich, web-based survey tool that allows users to build, distribute, and analyze online surveys, collaborate in real-time, and export data in multiple formats. All Wayne State students have access to a free account for this service.

Educational Outreach

5057 Woodward Avenue, Suite 3101, Detroit MI 48202; Telephone: (313) 577-4682
Email: educationaloutreach@wayne.edu
http://www.educationaloutreach.wayne.edu

Associate Vice President for Educational Outreach and International Programs: Ahmad Ezzeddine
Sr. Director, Business Affairs: Arthurine Turner
Director of Operations: Rebecca Journigan
Manager, Administrative Services: Heather Howell
Program Coordinators: Gail Stanford, Nevein Michail,
Director, Educational Outreach and Transfer Initiatives: Michael Quattro
Associate Director, Educational Outreach: Stacy Jackson
Program Manager, Schoolcraft Center: Gail Stanford
Associate Director, Executive and Professional Development: Michael Kelly
Instructional Services Supervisor: Margaret Matyniak
Project Coordinator, Marketing: Carol Baldwin
Financial Analyst: Stacey Smith

Educational Outreach is principally responsible for Wayne State University's off-campus offerings including online programs and courses. This division administers academic off-campus course offerings and programs for most Schools and Colleges of the University; the University Summer Session; and the partnership degree programs at University centers located on community college campuses. Educational Outreach staff coordinate relationships with community colleges partners and oversee transfer student recruitment and retention via the Transfer Student Success Center. Additionally, the division oversees credit and non-credit executive education, certificate, professional development and continuing education programs for the University.

The Division operates several instructional centers in the Detroit metropolitan area as well as in other selected locations in Michigan, and delivers distance learning and online instructional programs. Through these outreach efforts, WSU is able to serve and meet the educational needs of a diverse student audience: working adults who are unable to pursue traditional on-campus programs of study; persons who desire courses of instruction at or near their place of employment; and others who are simply taking courses to enrich their educational background or improve their technical skills.

Dual Enrollment Cohort Programs

Educational Outreach coordinates dual enrollment cohort programs for eligible high school students in interested school districts. Dual enrollment cohort programs may be offered on site within the school district or at any of the Wayne State University campuses. For information regarding Dual Enrollment Cohort Programs, telephone: 313-577-1430.

Visitor Program (Non-Credit)

Educational Outreach also administers the University's Visitor Program. Under this program, adults can attend a wide range of selected University courses, both on and off campus, provided classroom space is available. No grade or academic credit may be earned, and students may not be registered for courses taken for credit simultaneously with courses taken under the Visitor Program.

The Visitor Program allows any adult who is not currently enrolled in credit courses at Wayne State University to attend a wide range of University courses in a noncredit status. Visitor status students do not receive academic credit and do not receive acknowledgement on

transcripts. Provided space is available and permission has been granted, adults may enroll as visitors in most of the courses listed in the Schedule of Classes.

It is not necessary to be formally admitted to the University to take advantage of the Visitor Program. Visitor status students do not submit written work or take examinations. Registration for both on-campus and off-campus classes takes place the first two weeks of classes and is processed by the Division of Educational Outreach, located on the main campus.

Students enrolled in the Visitor Program are assessed one-half of the undergraduate resident lower division credit hour rate for each credit hour plus a non-refundable Registration Fee equal to one-half of the regular Registration fee and the full per credit hour undergraduate Student Service Credit Hour Fee. Payment of tuition and fees are due at the time of registration. Tuition must be paid in full at the time of registration. Payment is accepted by money order, check, Discover, Master or Visa Card. Money orders or checks must be drawn from a United States bank and cannot be starter checks. Students may register in person or by calling: 313-577-4682.

Travel Study

Sponsoring schools and colleges in the University offer travel study programs through the Division of Educational Outreach. Most programs occur in the spring/summer sessions; times and locales vary each year. Travel study refers to programs in the United States. Please refer to the Office of International Programs (p. 43) for study abroad programs. Recent travel study programs include:

College of Liberal Arts and Sciences: Biological Sciences: marine lab at the Florida Keys; field studies at Fish Lake, Michigan
College of Education: Science Education: ecology courses at Higgins Lake, Michigan
College of Fine, Performing and Communication Arts: Fashion Merchandising: design in New York City

Extension Centers

Director, Educational Outreach and Transfer Initiatives: Michael Quattro
Associate Director, Educational Outreach: Stacy Jackson
Program Manager, Schoolcraft Center: Gail Stanford

The Division of Educational Outreach operates several instructional centers in the Detroit metropolitan area as well as in other selected locations in Michigan. Through these outreach locations, the University is able to serve and meet the educational needs of a diverse student audience. The locations of the centers are listed below.

OAKLAND COMMUNITY COLLEGE, ORCHARD RIDGE CAMPUS
Building D, 27055 Orchard Lake Road
Farmington Hills, MI 48334
Telephone: 248-522-3905

SCHOOLCRAFT COLLEGE
18600 Haggerty Road
Jeffress Center, Suite 320
Livonia, MI 48152
Telephone: 734-853-3450
Fax: 734-853-3446
Email: schoolcraft@wayne.edu

MACOMB EDUCATION CENTER
16480 Hall Road
Clinton Township, MI 48038
Telephone: 586-226-4291; 313-577-9632
Fax: 586-226-8570
Email: macomb@wayne.edu

UNIVERSITY CENTER AT MACOMB
44575 Garfield Road
Clinton Township, MI 48038
Telephone: 586-263-6700; 313-577-6261
Fax: 586-263-6120
Email: macomb@wayne.edu

ADVANCED TECHNOLOGY EDUCATION CENTER
14601 East 12 Mile Road
Warren, MI 48088
Telephone: 586-447-3905; Fax: 586-447-3907
Email: atec@wayne.edu

Registration for Off-Campus Courses

Registration for off-campus academic courses is held during the regular registration periods for each semester. For specific registration information, telephone: 313-577-3541 or 313-577-4682.

Fees for credit classes are the regularly established fees of Wayne State University, which are published each semester in the University Schedule of Classes (http://classschedule.wayne.edu). All fees are subject to change at any time without notice by action of the Board of Governors of the University.

Non-Matriculant Advising

Persons who wish to enroll in credit courses offered through this division and who have NOT been formally admitted to the University are registered as non-matriculated students in the College of Liberal Arts and Sciences. Students are advised to consult the non-matriculant advisor as well as the specific degree program requirements cited in this bulletin, and are urged to process formal application and admission documents as soon as possible. Upon admission to a Wayne State school or college, credits earned in non-matriculant status may be applied toward degrees subject to the approval of the admitting school or college.

Admission Requirements

Most credit courses offered through Educational Outreach are open to all students who are qualified by virtue of meeting the prerequisites for individual courses or, in cases where there are no prerequisites, on the basis of their own assessment of their aptitudes. Those individuals who have been formally admitted to Wayne State University for a degree or certificate program, or post-baccalaureate study, and who are in good academic standing, will have course credits and grades earned through extension recorded on their transcripts in the same manner as credits earned on campus. Guest students should consult with their home institution when formulating their registration plans and submit an application for guest admission (http://admissions.wayne.edu/guest/requirements.php).

Programs Offered Through Educational Outreach

Educational Outreach offers entire curricula or selected courses applicable to many Wayne State University degrees and certificates at convenient times and places. The following complete degree programs are offered at various extension centers. Students should visit the Educational Outreach (https://wayne.edu/educationaloutreach/programs) website for more details.

Undergraduate Degree and Certificate Programs
Bachelor of Arts with a major in Anthropology
Bachelor of Arts in Business Administration with a major in Global Supply Chain Management

Bachelor of Arts in Business Administration with a concentration in Accounting or Management
Bachelor of Arts in Information Systems Technology
Bachelor of Arts with a major in Communication Sciences and Disorders
Post-bachelor's program in Communication Sciences and Disorders
Bachelor of Arts with a major in History with optional minor in Political Science or Criminal Justice
Bachelor of Arts with a major in Public Relations
Bachelor of Arts/Science in Elementary Education with a major in Special Education with a concentration in Cognitive Impairment
Bachelor of Science with a major in Computer Science
Bachelor of Science in Construction Management
Bachelor of Science in Criminal Justice
Bachelor of Science with a major in Elementary Education (Integrated Science or Mathematics)
Bachelor of Science in: (Engineering Technology degrees)

- Electrical/Electronic Engineering Technology
- Electromechanical Engineering Technology
- Manufacturing/Industrial Engineering Technology
- Mechanical Engineering Technology
- Product Design Engineering Technology

Bachelor of Science in Mechanical Engineering
Bachelor of Social Work
Bachelor of Science in Nutrition and Food Science
Bachelor of Science in Nursing

Graduate Degree and Certificate Programs
Master of Business Administration
Education Specialist Certificate in Special Education with a concentration in Learning Disabilities or Autism Spectrum Disorder
Endorsement in Bilingual/Bicultural Education with a concentration in English as a Second Language
Master of Arts in Employment and Labor Relations
Master of Education with a major in Special Education and concentrations in:

- Cognitive Impairment
- Learning Disabilities
- Autism Spectrum Disorders

Master of Social Work

Transfer Student Success Center

Director, Educational Outreach and Transfer Initiatives: Michael Quattro
Manager: Jo Bains
Telephone: 313-577-2487
Email: transfer@wayne.edu

The Transfer Student Success Center (TSSC) is a hub for transfer students to obtain the help they need to successfully complete their degree at Wayne State University. The TSSC is designed to help those transferring from a community college or other four-year institution navigate the administrative and academic units of the university and ensure a timely and successful completion of their degree.

The TSSC provides direct service to students, community college staff, and WSU departments.

Direct service to students includes support with:

- Transfer credit evaluation
- Academic advising
- Student organizations
- Engaging students with the larger Wayne State community
- Providing opportunities for prospective students to visit campus

Direct service to community college staff includes:

- Information about Transfer Plans and transferring of credit
- Development of articulation agreements
- Hosting/coordinating staff and faculty visits to WSU
- Providing counselors/advisors and other staff with current/updated WSU information

Direct service to WSU departments includes:

- Facilitating and coordinating the development of articulation agreements
- Acting as a resource and clearinghouse for information on transfer students
- Participating in and leading development of events and activities for transfer students

Executive and Professional Development Programs (Non-Credit)

Associate Director: Michael Kelly
Project Manager: Abby Cheatham
Telephone: 313-577-4665
http://www.ExecEd.wayne.edu

Executive and Professional Development (EPD) provides proven practical solutions to business challenges through executive education, business training and consulting. Offering a unique blend of expertise and flexible design, EPD moves beyond off-the-shelf, pre-packaged education, training and consulting 'services' by applying problem-solving strategies to assess and meet the needs of its clients. EPD is committed to providing customized, fully integrated, in-depth programs to address specific organizational needs and improve individual and organizational capabilities and performance. The EPD portfolio includes:

Business Training and Executive Education

EPD offers programs that respond to problems currently facing business, government and industry. Programs are offered in a variety of formats and deliver the strategies, tools, and knowledge needed to succeed in today's changing business environment. EPD mobilizes the resources of WSU to serve the specific and unique needs of the community by offering customized degree and non-degree programs, be they an onsite MBA program offered for a specific company, an Engineering Management Master program offered for a group of engineering executives, or a master of social work offered at one of the university's extension sites.

EPD provides a blended training approach by using a variety of alternative delivery methods including on-site facilitated sessions, video-conferencing, online training and computer-based programs.

Certificate Programs

EPD responds to industry's demand for a more comprehensive approach to continuing education by offering certificate programs that encompass several current management and business issues. These multiple-session programs offer participants the opportunity for higher mastery and competency in a particular subject area and can be customized to meet each organization's specific needs.

On-Site Consulting Services

In conjunction with training, EPD's expert staff provides consulting services in a variety of areas including training and design development, leadership and organizational development, succession planning, business process improvement, strategic planning, and executive coaching.

Procurement Technical Assistance Center

The Procurement Technical Assistance Center (PTAC) works with qualified businesses in the Detroit area to prepare them to bid for government contracts. PTAC's goal is to provide small business owners with a competitive edge in selling to the public sector by educating them about opportunities, and offering marketing and technical assistance. Recently, PTAC services resulted in awarded contracts totaling more than $5 million.

For further information on any Executive and Professional Development services or activities, call: 313-577-4665.

Financial Aid

Office of Student Financial Aid (OSFA)

Welcome Center, 42 W. Warren Avenue
P.O. Box 2340, Detroit, MI 48202
Telephone: 313-577-2100, Fax: 313-577-6648
https://wayne.edu/financial-aid

The Office of Student Financial Aid (OSFA) provides need-based and non-need-based financial aid to help eligible students meet the expenses of their education. Financial aid is intended to supplement, not to replace, students' financial resources. Financial need is determined from the information that students submit on the Free Application for Federal Student Aid (FAFSA (https://fafsa.gov)).

Information concerning scholarships (https://wayne.edu/scholarships) is available online. Wayne State University offers a variety of University-wide scholarships that are awarded based on financial need, scholastic achievement, and/or leadership qualities. To apply for University-wide scholarships, students must complete the online application (https://wayne.edu/scholarships/privateapp). Note: Scholarships that have need as a criterion require submission of the FAFSA.

Service Hours: Walk-in financial aid assistance is provided in the lobby of the Welcome Center Monday through Thursday, 8:30 a.m. to 6:00 p.m., and Friday 8:30 a.m. to 5:00 p.m. June through August, walk-in services end at 5:00 p.m. Monday through Friday. You also may email studentservice@wayne.edu or call 313-577-2100.

The Office of Student Financial Aid will send email and notices to your WSU email account (https://tech.wayne.edu/kb/communication-collaboration/wayne-connect). Information about your award and award requirements is available in Academica. More information about using Academica is available on our website (https://wayne.edu/financial-aid/receiving/pipeline).

Financial Aid Types

Financial aid at Wayne State University is awarded in the form of a 'package,' or combination of aid sources, and generally consists of four types: grants, scholarships, loans, and employment. The amount of aid a student can receive cannot exceed the estimated cost of attendance. The amount of need-based financial aid that a student may receive cannot exceed their financial need, which is based on the information provided on the FAFSA. Students may be eligible for non-need-based aid in the form of scholarships or unsubsidized federal loans.

Grants

Grants are gift assistance awarded on the basis of financial need and do not require repayment. The Free Application for Federal Student Aid (FAFSA) is required. Federal grants include the Federal Pell Grant, the Supplemental Educational Opportunity Grant (SEOG) and the Federal TEACH Grant.

Scholarships

Scholarships are gift assistance awarded based on academic achievement or other special ability and do not require repayment. For some awards, financial need is a factor and a FAFSA is required.

Loans

Loans are money that must be repaid at a future date, usually following graduation or when the student ceases to be enrolled on at least a half-time basis. Federal loans require submission of the FAFSA. Need- and non-need-based loans are available. Need-based loans for undergraduates include the Federal Direct Subsidized loan. Non-need based loans include the Federal Direct Unsubsidized loan. Parents of dependent undergraduates may apply for a Federal PLUS loan to assist with educational expenses.

Federal Work-Study

Federal work-study is on- or off-campus part-time employment with eligible employers. Work-study is awarded based on financial need. Students interested in work-study should complete the annual FAFSA. The Work-Study Request Form available on our website. The Student Guide to On-Campus Employment, which explains the hiring process and the terms and conditions of employment is available from the Office of Career Services (http://careerservices.wayne.edu/student-employment.php).

Free Application for Federal Student Aid (FAFSA)

How and When to Apply for Financial Aid: Each academic year, submit the Free Application for Federal Student Aid (FAFSA) (http://www.fafsa.ed.gov) and include the WSU federal code, 002329. The federal processor, the U.S. Department of Education, will electronically transmit the FAFSA data to the Office of Student Financial Aid.

Help Completing the FAFSA: Help completing the FAFSA is provided online throughout the application process. Help also is available by telephone from the Federal Student Aid Information Center: 1-800-4-FED-AID (1-800-433-3243) during regular business hours (Eastern Time), Monday through Friday.

Application Deadlines

Fall/Winter Application Priority Date: The application priority date for financial aid consideration at WSU for fall and winter semesters is the date by which the FAFSA should be submitted to facilitate determination of student eligibility for financial aid before the beginning of the fall semester. The priority date is not a deadline. See our website (https://wayne.edu/financial-aid/resources/dates) for current information.

Students may submit the FAFSA time during the following periods:

> **The 2019-20 FAFSA can be submitted October 1, 2018 through June 30, 2020.**
>
> **The 2020-21 FAFSA can be submitted October 1, 2019 through June 30, 2021.**

The 2019-20 FAFSA requires 2017 federal tax information. The 2020-21 FAFSA requires 2018 federal tax information. Applicants may be able to use the IRS Data Retrieval Tool when completing the FAFSA. The IRS Data Retrieval Tool will immediately upload tax data to the FAFSA.

Spring/Summer Financial Aid: The Office of Student Financial aid will use your 2019-20 FAFSA information to determine your aid eligibility for spring/summer 2020 and your 2020-21 FAFSA information to determine your eligibility for spring/summer 2021. Note: If the FAFSA has been

submitted for the academic year, it is not necessary to submit it again for the spring/summer semester.

Academic Calendar: At WSU, the spring/summer semester is the third term of the school year. For example: The spring/summer semester 2020 is part of the 2019-20 school year; the spring/summer semester 2021 is part of the 2020-21 school year.

Financial Need Determination

The Student Aid Report (SAR) lists the financial aid applicant's answers to the questions on the FAFSA. Based on those answers, the SAR either states the student's Expected Family Contribution (EFC) or instructs the student to take additional action which will allow an EFC to be determined. The EFC is a measure of the student's financial strength and is used in determining financial need. The SAR also indicates whether the financial aid application has been selected for the verification process.

How Financial Need Is Determined: To determine financial need, OSFA subtracts the student's expected family contribution (EFC) from the average cost of attendance (COA) for their program at Wayne State University. COA minus EFC equals financial need.

Verification: The process by which an educational institution confirms the accuracy of the data reported on an individual student's FAFSA is called verification. The federal processor selects the FAFSA applications for which the data submitted must be verified. If a student is selected for verification, they must provide documentation to confirm the information on the FAFSA.

Note: If an application is selected for verification, the student must complete the verification process before eligibility for financial aid can be confirmed, and before financial aid can be paid.

The Cost of Attendance (COA): The cost of attendance (COA), which is also called a budget, components include: tuition, fees, books and supplies, housing allowance (based on the living arrangements reported on the FAFSA) and miscellaneous expenses. If a loan is awarded, loan fees will be an included component. All students are initially assigned estimated tuition costs and estimated costs for books and supplies based on full-time enrollment status for their academic programs. Financial aid awards are offered based on the estimated budgets. At the time of disbursement, each student's financial aid award is adjusted based on current enrollment status (full-time, three-quarter time, or half-time).

The COA may be adjusted to include dependent care directly related to attendance at WSU; costs related to a disability; computer purchase for educational purposes; costs to obtain a first professional license; and an allowance for reasonable costs directly related to one's program of study.

Michigan Resident and Out-of-State Resident Cost of Attendance (http://wayne.edu/financial-aid/resources/cost-of-attendance)**:** Please access our website for detailed information concerning how student budgets are assigned and cost of attendance component amounts.

Current Tuition and Fees (http://reg.wayne.edu/students/tuition.php)**:** Tuition and fees are subject to change by the WSU Board of Governors without notice.

Special Circumstances (https://wayne.edu/financial-aid/forms/appeal)**:** The Office of Student Financial Aid recognizes that students may have extenuating financial circumstances that the standard need analysis form (FAFSA) does not consider. Applicants may request a review of extenuating circumstances that they believe affect their financial aid eligibility by submitting a Special Circumstances Appeal Form.

Eligibility and Conditions of Financial Aid

Students must be enrolled in an eligible degree- or certificate-granting program to receive financial aid funds. Enrollment must be at least half-time to be considered eligible for most types of aid. At the undergraduate level, enrollment for six credits is considered half-time and enrollment for twelve or more credits is considered full-time. Some scholarships may require enrollment in fifteen credit hours each fall and winter semester.

Non-degree programs have aid limitations and not all programs are eligible for financial aid. OSFA can provide more information about non-degree programs, including a list of specific certificate programs that are ineligible for financial aid.

Prerequisite coursework aid eligibility is limited. Determination of aid eligibility requires submission of the Prerequisite Coursework Aid Request Form, which is available on our website.

Repeat Coursework

Federal financial aid will pay for only one repeat registration in a course for which the student has previously earned a passing grade. That is, students are only eligible to receive financial aid the first time the course is repeated.

Financial Aid Enrollment Policy and the Census Date

Financial aid recipients are expected to attend all courses throughout the semester. If your participation in class is not confirmed by your instructor, your aid may be reduced or cancelled. The census date is the date on which WSU counts the number of students enrolled at the institution, which is the tenth day of each semester. It is the policy of the Office of Student Financial aid to lock or "freeze" the number of enrollment credits after the census date each semester. After the credits are locked or "frozen," grants and scholarships will not be adjusted (increased or decreased) unless a student withdraws from all classes. Therefore, the number of credits for which a student is enrolled on the census date determines the amount of grant funds that they will receive for the semester.

If, after the census date, a student increases enrollment credits, the grant amount(s) will not be increased. If, after the census date, a student decreases their credits of enrollment, the grant amount(s) will not be decreased. However, if a student withdraws from all classes, federal financial aid regulations require OSFA to determine the amount of financial aid the student has "earned" based on the portion of the semester that has been completed. The "unearned" part of the student's award must be returned to the financial aid program(s) from which the award(s) was/were made. As a result, withdrawing from all classes may cause cancellation of a portion or of all financial aid.

Calculating "Earned" versus "Unearned" Financial Aid

OSFA must follow federal regulations in determining the amount of "earned" versus "unearned" federal financial aid disbursed to a student who then leaves school without completing the semester. The refund percentage is determined by the student's effective date of withdrawal from all classes, which is the last recorded date of attendance.

A student who completes 60% or less of a semester will be considered to have "earned" the same percentage of financial aid as the percentage of the semester completed. The percentage will be calculated by dividing the completed number of days by the total number of days in the semester. The percentage of "unearned" aid will correspond to the percentage of the semester not completed. A student who completes more than 60% of a semester will be considered to have earned 100% of the financial aid disbursed for that semester and no return of federal financial aid will be calculated.

A student has not "earned" all of the financial aid received may be required to repay those funds. Detailed information is provided in the WSU Withdrawals and Return of Title IV Policy (https://wayne.edu/financial-aid/receiving/cancellation).

Enrollment Requirements for Federal Direct Loans

A student must be enrolled at least half-time to receive a federal loan disbursement. At the undergraduate level, enrollment for six credits is considered half-time.

Satisfactory Academic Progress (SAP)

Federal financial aid regulations require OSFA to apply reasonable standards for measuring whether a student is making progress toward a degree or certificate. The standards, which are called satisfactory academic progress (SAP), must be met for a student to remain eligible to receive financial aid. Academic progress is measured each semester.

WSU Satisfactory Academic Progress Standards are comprised of three components:

1. The cumulative grade point average of at least 2.0 is required at the undergraduate level.
2. The pace of progress toward the degree or certificate must be at least 67%, which is determined by dividing the cumulative number of credits completed by the cumulative number of credits attempted.
3. The maximum time frame for completing the degree or certificate, is 150% of the average published length in credits of the program.

Note: Full-time or part-time enrollment is not a factor in determining the pace of progress or the time frame since only credits are the units of measurement.

The WSU Satisfactory Academic Progress Policy is available online (https://wayne.edu/financial-aid/receiving/sap). Check your SAP status in Academica (https://academica.aws.wayne.edu).

Consequences of Withdrawing from Courses

A student's satisfactory academic progress (https://wayne.edu/financial-aid/receiving/sap) may be affected if the student withdraws from courses during a semester. A student who does not comply with SAP standards may be denied financial aid for subsequent semesters. The university has specific instructions for SAP appeals (https://wayne.edu/financial-aid/receiving/sap/sapappeal).

A student who withdraws from all courses may be required to repay a portion of the financial aid received. Please see the section above titled Calculating "Earned" versus "Unearned" Financial Aid. If a student's withdrawal from one or more courses results in less-than-half-time enrollment status, the student will not be eligible for new federal loan funds. At the end of the grace period on the loans received, repayment will begin.

The U.S. Department of Education's Office of Federal Student Aid (https://studentaid.ed.gov/sa) governs the policies and procedures for loan repayments, deferment, forbearance, and limits. Detailed information about grace periods and loan repayment is available on the Federal Student Aid website. Students should contact their loan servicer to make repayment arrangements or request a loan deferment or forbearance.

The amount in federal student loans that a student can receive has annual and aggregate limits. Students are strongly encouraged to consider these limits in developing their education plan.

Financial Aid Disbursement

Financial Aid Disbursement: Financial aid (except work-study) is paid in two disbursements if the award is for the academic year (fall and winter semesters). Half of the award is paid in the fall semester and half is paid in the winter semester.

Financial aid recipients are expected to attend courses throughout the semester. Aid will not disburse after courses begin unless the instructor confirms participation in courses. If participation in class is not confirmed, the amount of financial aid may be affected.

Financial aid funds are applied directly to institutional charges (tuition, fees, room and board). Any excess funds will be available within 14 days of the date the credit balance occurs or within 14 days of the first day of classes — whichever is later.

Federal Work-Study Payments: Work-study earnings are paid biweekly in the form of a paycheck. The department in which the student is employed submits a record of the hours worked to the Payroll Office, and the Payroll Office authorizes payments.

Note: Students cannot earn more than the amount of their work-study award. Spring/summer semester is separate from the fall and winter semesters. Unused funds from a fall and/or winter work-study award cannot be earned in the spring/summer semester.

Enrollment Requirements for Federal Direct Loans: A student must be enrolled at least half-time to receive a federal loan disbursement. At the undergraduate level, enrollment for six credits is considered half-time.

General Education Program

Wayne State has had a University-wide Program in General Education since 1987 for all undergraduate students pursuing bachelor's degrees regardless of their academic specialties. These requirements contribute to the goal of ensuring that all students have the basic skills fundamental to success in college while simultaneously achieving the intellectual breadth necessary to place specialized and professional curricula in proper perspective. By means of the General Education Program, undergraduate students improve their skills and are introduced to methods of inquiry, modes of thought, bodies of knowledge, and representative ideas drawn from a wide range of academic disciplines.

Effective Fall 2018, the university has adopted major revisions to the general education curriculum. While aspects of the new curriculum are shared with the old curriculum, existing topics were revised and new topics created to specifically align with university's mission and strategic plan. This includes commitments to global learning, diversity, equity and inclusion, and support for students' transition into the Wayne State University academic community. A maximum of 35 credits of Competencies, Group Requirements, and Wayne Experience Requirements shall comprise the General Education Program.

The General Education Requirements for students matriculating or graduating under the 2018-19 University Bulletin are organized into the categories below. Please contact your advisor if you have questions about General Education Requirements specific to your academic plan of work.

Competency Requirements

Learning Objectives: Competency Requirements ensure that students develop and demonstrate early in their academic careers fundamental skills in the following areas that underlie and make possible the acquisition of knowledge.

- Quantitative Experience (QE), satisfied through an appropriate course in mathematics, statistics, or quantitative reasoning.
- Oral Communication (OC)

- Written Communication (Basic Composition - BC, and Intermediate Composition - IC)

General Education Group Requirements

Learning Objectives: Group Requirements have a two-fold purpose:

1. to enable students to acquire knowledge and demonstrate understanding in a broad range of representative branches of knowledge; and
2. to enable students to develop and demonstrate the ability to apply methodological skills which encourage continued exploration on an independent level throughout their lives.

Group Requirements are organized in the following categories of inquiry:

- Cultural Inquiry (CI)
- Natural Scientific Inquiry (NSI)
- Social Inquiry (SI)
- Diversity, Equity and Inclusion Inquiry (DEI)
- Global Learning Inquiry (GL)
- Civic Literacy (CIV)

Wayne Experience Requirements

The Wayne Experience (WE), a one-credit course a required group of various one credit courses required of all first-year students, will play an instrumental role in socializing students into the university community by providing activities that will increase their connections with fellow students, academic advising staff, and their instructors. The essential goals for this requirement are to enhance student engagement, success, and retention by implementing high-impact practices (HIPS) within a student's first year in college. Wayne Experience will also help students build key skills and habits that will allow them to successfully navigate the university and manage their busy lives. These range from time management to, study and test-taking skills to and engaging in community activities both on and off campus. Student motivation, engagement, learning, achievement, persistence and degree attainment all can be fostered by these transformative educational experiences.

Exemptions for Second Degree and Transfer Students (General Education Program)

Students who hold a bachelor's degree from an accredited institution and who seek a second bachelor's degree are exempt from the University-wide General Education Requirements, but must satisfy all School/College, department and program requirements.

Equivalent courses taken at another institution may satisfy General Education Requirements. In cases where this would exceed the limitation of sixty-four credits from a community college accepted on a transfer basis, such courses shall satisfy the requirements, but the credits will not count towards the degree. Transfer students who have satisfied all requirements of the Michigan Transfer Agreement (MTA) are exempted from University General Education Requirements, but must satisfy all School/College, department and program requirements.

Competency Requirements

Success in college and the ability to function as an educated citizen require not only the ability to master areas of foundational knowledge, but also a series of fundamental skills that underlie and make possible the acquisition of knowledge. Since competencies or skills are preconditions for higher education, basic competencies should be demonstrated early in one's academic career. Multiple methods of demonstrating competency are available, including satisfactory completion of designated courses or earning appropriate scores on designated examinations.

Competency Requirements should be met early in a baccalaureate degree program. Students who fail to meet the specified deadline will be allowed two additional semesters (or equivalent) in which to satisfy the competency requirement. During this time, they must be actively involved in taking the appropriate course or otherwise preparing themselves to demonstrate competence. After the two-semester limit, students who have not satisfied the requirement may be barred from enrolling in courses other than those which satisfy the competency requirement until the requirement has been completed.

The following general principles apply to all competency requirements:

1. Students who satisfy any Competency Requirement by passing a prescribed Wayne State University placement, qualifying, screening, competency or proficiency examination shall be excused from equivalent course work but shall receive NO course credit.
2. Course credit granted for satisfactory completion of an Advanced Placement, CLEP, International Baccalaureate, or Departmental Examination will satisfy the appropriate Competency or Group Requirement; credit so earned will be applicable to a baccalaureate degree.
3. Courses used to satisfy Competency Requirements shall not generally be used to satisfy Group Requirements.

Written Communication (BC, IC)

Writing ability is a cornerstone of academic studies and is often considered the touchstone of a university education. Skill and effectiveness in writing serve the individual throughout life — in career, in community, and in social and leisure activities. The ability to write well must be developed so that specialized audiences within professional fields as well as general audiences can be addressed effectively. While writing proficiency may be honed and refined in composition courses, writing is a skill that serves many purposes; one that requires constant renewal. The requirement in Written Communication is structured not only to provide training in how to write well, but also to insure that writing skills continue to be exercised and enhanced throughout the undergraduate years. The progression of the Written Communication requirements reflects the important notion of 'writing across the curriculum.' This requirement contains the following three components:

Basic Composition (BC) Requirement

All students must demonstrate competence in basic English composition prior to completing thirty credits. Basic composition competence shall be determined by satisfactory completion of a designated course, or its course equivalent or earning credit for basic composition through a national standardized test.

All students must demonstrate competence in basic composition by:

1. Completing successfully an approved course in basic composition with a grade of C or better: ENG 1020, ENG 1050; (Schools and colleges may also have specific requirements, such that careful course selection can lead to meeting both General Education and college requirements. Please consult the College/School listing for specific requirements); OR
2. Earning credit for basic composition through Advanced Placement CLEP or International Baccalaureate; OR
3. Transferring credit received for successful completion of a comparable course completed with a grade of C or better at another college or university.

After successful completion of this requirement, students will be able to demonstrate their ability to:

1. Use reading strategies in order to identify, analyze, evaluate, and respond to arguments, rhetorical elements, and genre conventions in college-level texts and other media.
2. Learn flexible research methods in order to effectively identify, select, evaluate, and apply secondary research that is appropriate to the scope and topic of a persuasive argument.
3. Develop critical literacy strategies to effectively and responsibly quote, paraphrase, summarize, and synthesize secondary research sources in order to compose persuasive arguments.
4. Learn theories and practices of written composition and rhetoric related to the writing process, including genre conventions of public and/or academic discourse communities and strategies for reading, drafting, writing, rewriting, and editing
5. Apply rhetorical knowledge to develop persuasive research-based written arguments intended for public and/or academic audiences, including techniques of rhetorical analysis of written texts and rhetorical strategies for composing arguments.
6. Compose persuasive arguments using a flexible writing process that includes instructor and peer feedback through multiple drafts of writing projects that incorporate varied writing media.
7. Use reflection and reflective writing to develop metacognition on the writing and research processes to plan, monitor, and evaluate one's own learning and writing.

Intermediate Composition (IC) Requirement

After successful completion of this requirement, students will be able to demonstrate their ability to:

1. Learn how to develop appropriate, relevant, and compelling primary research that responds to a text's audience, context, and purpose within a professional discourse community.
2. Synthesize primary and secondary research in order to develop ideas and compose written arguments and/or analyses that respond to issues in a professional discourse community.
3. Investigate, analyze, and compose texts for professional discourse communities as related to a concentration of study (i.e., a student's major).
4. Develop and adjust reading strategies to analyze and evaluate genres within and beyond the student's discipline and profession, including their associated professional discourse community, audience(s), rhetorical situations, purposes, and strategies.
5. Compose written texts that respond to the expectations of audiences inside and outside of students' professional discourse community in terms of content, claims, evidence, organization, format, style, rhetorical situation, persuasive strategies, and language effects.
6. Develop an awareness of how written genre conventions are social, and how genre and professional discourse communities change and shape each other over time.
7. Use reflective writing and meta-cognition as part of the planning, monitoring, and evaluation of one's research and writing processes.

All students must complete satisfactorily a designated intermediate, or more advanced, course in which the teaching of English composition and rhetoric is a major component prior to completing seventy-five credits. Satisfactory completion requires a grade of C or better. Courses currently approved for intermediate composition are:

Code	Title	Credits
AFS/ENG 2390	Introduction to African-American Literature: Literature and Writing	3
ENG 3010	Intermediate Writing	3
ENG 3020	Writing and Community	3
ENG 3050	Technical Communication I: Reports	3

Schools and colleges may also have specific requirements, such that careful course selection can lead to meeting both General Education and college requirements. Please consult the College/School listing for specific requirements.

Oral Communication (OC) Requirement

Educated persons should be comfortable in situations which require them to make oral presentations, be able to convince others of a point of view, or make appropriate remarks in an informal setting. Along with an ability to write cogently, communicating orally is mentioned most frequently by employers and others who evaluate the preparedness of college students as a fundamental skill to be able to compete in contemporary society. Consequently, oral communication is a crucial skill needed for success in virtually every field of endeavor.

All students must demonstrate competency in the fundamentals of oral communication prior to completing sixty credits. Oral communication competency shall be demonstrated by:

1. Completing successfully an approved course in oral communication: COM 1010; ENG 3060 (Schools and colleges may also have specific requirements, such that careful course selection can lead to meeting both General Education and college requirements. Please consult the College/School listing for specific requirements.); OR
2. Passing the Oral Communication Competency Examination; OR
3. Transferring credit received for successful completion of a comparable course taken at another college or university.

After successful completion of this requirement, students will be able to demonstrate their ability to:

1. Apply public speaking skills and concepts to speech presentations.
2. Prepare and deliver four different types of well-organized, context-specific speeches.
3. Create and present a well-designed presentational aid complementing a message in an informative speech.
4. Employ persuasive strategies in a persuasive speech.
5. Collaborate in a group in order to complete tasks for a group presentation.
6. Incorporate credible research into an informative and persuasive speech.
7. Critically reflect on the organization, content, and delivery of public speaking performances.
8. Perform an audience analysis to create a speech that is appropriate for and respectful of a diverse audience.

Quantitative Experience (QE) Requirement

Individuals with competency in quantitative skills possess the ability to reason and solve problems from a wide range of authentic contexts and everyday life situations. They can interpret quantitative data and use that analysis to provide support for sophisticated arguments. They can clearly communicate those arguments in a variety of formats as appropriate. This requirement is aimed at developing those skills in all of our students.

Competency in quantitative skills must be demonstrated by all students prior to completion of the first thirty credits taken at Wayne State

University. Quantitative skills competency shall be demonstrated by: a) Satisfactory completion of any QE designated course with a grade of C or better if taken at Wayne State University; OR b) Placing into a mathematics course above the level of MAT 1000 or MAT 1050 on the Mathematics Placement Examination; OR c) Achieving appropriate scores on national standardized tests; OR d) Transferring credit received for successful completion of a course equivalent to or higher than MAT 1000 completed with a grade of C or better at another college or university.

After successful completion of this requirement, students will be able to demonstrate their ability to:

1. Apply mathematical models to real-world problems.
2. Carry out and justify calculations.
3. Draw conclusions based on quantitative evidence.
4. Communicate arguments supported by quantitative evidence.

Code	Title	Credits
BA 1200	Personal Finance Planning	3
BA 2300	Quantitative Methods I: Probability and Statistical Inference	3
FPC 1010	Math for the Arts	3
MAE 1000	Detroit by the Numbers	3
MAT 1000	Mathematics in Today's World	3
MAT 1050	Algebra With Trigonometry	5,7
MAT 1110	Mathematics for Elementary School Teachers I	3
MAT 1120	Mathematics for Elementary School Teachers II	3
MAT 1500	College Algebra for the Social and Management Sciences	3
MAT 1800	Elementary Functions	4
MAT 2010	Calculus I	4
MAT 2020	Calculus II	4
PHI 1070	Reasoning and Decision	3
PS 1050	Understanding Political Science Statistics	4
STA 1020	Elementary Statistics	3
STA 2210	Probability and Statistics	4
THR 2651	Introduction to Life Skills for the Creative Entrepreneur	3

Group Requirements (Inquiry Courses)

Inquiry courses are designed to help introduce students to the different perspectives, methodologies, and questions that shape the production of knowledge. As suggested by the title, in these courses students will learn how scholars think in different disciplines, and they will also begin to engage in inquiry themselves, using diverse disciplinary methodologies to ask questions, analyze data, and make their own evidence-based arguments.

Through courses that fulfill Inquiry requirements, students will:

1. Gain exposure to different disciplinary ways of understanding the world.
2. Develop basic competencies in these disciplinary methodologies.
3. Apply disciplinary methodologies to analyze relevant data or examples.

There are four primary categories of Inquiry. They include Social Inquiry, Cultural Inquiry, Natural Scientific Inquiry, and Civic Literacy Inquiry. In addition to these categories, there are three additional cross-inquiry categories: First Year Inquiry, Global Learning and Diversity, Equity and Inclusion. *Cross-Inquiry* courses are specially-designated courses that provide focus on themes that may cut across the primary Inquiry categories, therefore all cross-inquiry courses could be conceivably be found in a primary inquiry category. For example, one could imagine a course focused on Global Learning outcomes from the perspective of the social sciences and/or the arts and humanities.

Each student must complete a minimum of seven courses of at least 3 credits each from the following Inquiry groups, with at least two courses from the Natural Science Inquiry (NSI), one with a lab section, and one course from the remaining Inquiry groups, all of which are listed below.

NOTE: Schools and colleges may also have specific requirements, such that careful course selection can lead to meeting both General Education and college requirements. Please consult the College/School listing for specific requirements.

Social Inquiry (SI)

After successful completion of this requirement, students will be able to demonstrate their ability to:

- Describe the behaviors, practices, institutions, and/or systems that define a society or social group.
- Identify and define basic concepts in social analysis.
- Analyze social institutions and social interactions.

Code	Title	Credits
AFS 1010	Introduction to African American Studies	3
AFS 2210	Black Social and Political Thought	4
AFS/HIS 3360	Black Workers in American History	4
ANT 1100	Introduction to Anthropology	3
ANT 3200	Lost Cities and Ancient Civilizations	3
ANT 3400	Introduction to Medical Anthropology	3
ANT/GLS/PH 3410	Global Health	3
ANT/GLS 3700	Globalization: Theories, Practices, Implications	3
ASN/HIS 1700	East Asia to the 1700s	3
ASN/HIS 1710	History of Modern East Asia	3
CLA/GKM 3590	Byzantine Civilization	3
COM 1700	Media Literacy	3
COM 2200	Interpersonal Communication	3
CRJ 1010	Introduction to Criminal Justice	3
ECO 1000	Survey of Economics	4
ECO 2010	Principles of Microeconomics	4
ECO 2020	Principles of Macroeconomics	4
GLS/HIS 2800	Introduction to Global Issues and Institutions	3
GPH 1100	World Regional Patterns	4
GPH 2000	Introduction to Urban Studies	4
GPH 3130	Introductory Urban Geography	4
GPH 3200	Europe	3
GSW 2700	Social Science Perspectives on Gender, Sexuality, and Women	3
HIS 1000	World Civilization to 1500	4
HIS 1050	History of the Headlines: United States Since World War II	3
HIS 1300	Europe and the World: 1500-1945	4
HIS 1400	The World Since 1945	4
HIS 1600	African Civilizations to 1800	3-4

HIS 1610	African Civilizations Since 1800	3-4
HIS/LAS 1900	History of Colonial Latin America	3
HIS/LAS 1910	Latin America from Independence to the Present	3
HIS 1995	Nature and Societal Transitions	3
HIS 2000/ SOC 2500/ US 2000	Introduction to Urban Studies	4
HIS 2040	American Foundations to 1877	3-4
HIS 2050	Modern America: Since 1877	3-4
HIS 3250	The Family in History	3-4
KHS 1000	Contemporary Issues in Sport, Exercise, and Health Sciences	3
LAS 3610	Seminar in Latino/a Urban Problems	3
NUR 3200	Global Healthcare	3
PH 3100	Social and Behavioral Aspects of Public Health	3
PS 1000	Introduction to Political Science	3
PS 1010	American Government	4
PS 1030	The American Governmental System	3
PS 2000	Introduction to Urban Studies	4
PS 2240	Introduction to Urban Politics and Policy	4
SAM 2020	History of Sport	3
SOC 1010	Understanding Human Society	3
SOC 1020	Social Problems	3
SOC 2203	Social Psychology	3
SOC 2208	Sociology of Sport	3
SOC 2209	Sociology of Religion	3
SOC 2300	Social Inequality	3
SOC 2510	People on the Move	3

Cultural Inquiry (CI)

After successful completion of this requirement, students will be able to demonstrate their ability to:

- Describe artistic or cultural form(s) or philosophical ideas.
- Identify and define basic concepts in artistic or humanistic analysis.
- Analyze artistic practices, cultural forms, artifacts, or philosophical ideas.

Code	Title	Credits
AED 5050	Integrating the Arts into the Elementary Classroom	3
AFS 2010	African American Culture: Historical and Aesthetic Roots	4
AFS/LAS 2250	AfroLatino/a History and Culture	3
AH 1000	Introduction to Art	3
AH 1110	Survey of Art History: Ancient through Medieval	3-4
AH 1120	Survey of Art History: Renaissance through Modern	3-4
AH 1130	Encounters with the Arts of Global Africa	3
ANT 2400	Food and Culture	3
ANT 3100	World Cultures	3
ASN/JPN 2800	Culture Studies in Japan (Homestay and Study Abroad Tour)	3
CHI 2050	Gateway to Chinese Civilizations	3
CHI 3000	Chinese Mythology and the Supernatural	3
CHI 3022	Introduction to Chinese Literature	3
CLA 1010	Classical Civilization	3-4
CLA 2000	Greek Mythology	3-4
CLA 2200	Introduction to Greek Tragedy	3-4
CLA 2300	Ancient Comedy	3
CLA 3720	Greek Identity from Antiquity to Modernity	3
COM 2010/ ENG 2450	Introduction to Film	4
COM 2020	History of Film	3
COM 2160	Campaigns and Social Movements	3
DNC 2000	Introduction to World Dance	3
DNC 2310	History of Dance from 1800 to the Present	3
ENG 2100	Introduction to Poetry: Literature and Writing	3
ENG 2110	Introduction to Drama: Literature and Writing	3
ENG 2120	Introduction to Fiction: Literature and Writing	3
ENG 2210	Great English Novels: Literature and Writing	3
ENG 2310	Major American Books: Literature and Writing	3
ENG 2420	Literature and Science	3
ENG 2560	Children's Literature: Literature and Writing	3
ENG 2570	Literature By and About Women: Literature and Writing	3
ENG 2200	Shakespeare	3
ENG 2430	Digital Narrative	3
ENG 2440	Introduction to Visual Culture	3
ENG 2445	Comics and Graphic Novels	3
ENG 2450	Introduction to Film	4
ENG 2470	Television Culture	4
ENG 2500	The English Bible as Literature	3
ENG 2565	Young Adult Literature and Culture	3
ENG 2585	Literature and War	3
ENG 2510	Popular Literature	3
ENG 2720	Basic Concepts in Linguistics	3
ENG 2800	Techniques of Imaginative Writing	3
FRE/GER/ITA/ SPA 2700	Anguish and Commitment: European Existentialist Literature	3-4
FRE/GER 2991	Understanding the Fairy Tale	3
GER 2310	Short Fiction from Central Europe and Russia	3
GLS 2700	Introduction to Global Stories	3
GSW 2500	Humanities Perspectives on Gender, Sexuality, and Women	3
HIS 1800/ NE 2030	The Age of Islamic Empires: 600-1600	3
HIS 1810/ NE 2040	The Modern Middle East	3
HON 4200	Seminar in Philosophy and Letters	3
ITA 2710	Italy and Italians I	3
ITA 2720	Italy and Italians II	3
ITA 2991	Italian Fairy Tales	3
ITA/NFS 3300	Science, History, and Culture of Italian Cuisine	3
JPN 2720	Japanese Culture through Myth, Fairy Tales, and Media	3
LAS 2100/ SPA 2400	Chicano/a Literature and Culture	3
LAS 2110/ SPA 2500	Puerto Rican Literature and Culture	3
LIN 2720	Basic Concepts in Linguistics	3
MUH 1340	Music Appreciation: World Music	3
MUH 1345	Music Cultures	3
MUH 1350	History of American Popular Music	3

MUH 1351	History and Styles of Rock and Roll	3
MUH 1370	Music Appreciation: Beginnings to the Present	3
MUH 5340	Survey of World Music	3
NE 2010	The Bible and Ancient Mythology	3
NE 2060	Hebrew/Israeli Film: Trends and Themes in Israeli Cinema	3
PHI 1010	Introduction to Philosophy	4
PHI 1020	Honors Introduction to Philosophy	3-4
PHI 1100	Contemporary Moral Issues	3
PHI 1110	Ethical Issues in Health Care	3
PHI 1120	Professional Ethics	3
PHI 1130	Environmental Ethics	3
PHI 1200	Life and Death	3
PHI 1500	Race, Sex, and Religion	3
PHI 2100	Ancient Greek Philosophy	3
PHI 2110	Seventeenth and Eighteenth Century Philosophy	3
PHI 2140	Ancient Greek Medicine and Psychology	3
PHI 2320	Introduction to Ethics	3
PHI 2360	Feminist Philosophy	3
PHI 2400	Introduction to the Philosophy of Religion	3
PHI 2550	Introduction to Philosophy of Science	3
PHI/PSY 2650	Philosophy of Psychology	3
PHI 3500	Theory of Knowledge	3
PHI 3550	Metaphysics	3
PHI 3700	Philosophy of Art	3
POL/SLA 3750	Polish and Yugoslavian Cinema	3
PS 3510	Law, Authority and Rebellion	4
PS 3520	Justice	4
RUS 2991	Understanding the Fairy Tale	3
RUS 3600	Nineteenth Century Russian Literature	3
RUS 3650	Russian Literature Since 1900	3
SLA 2310	Short Fiction from Central Europe and Russia	3
SLA 3710	Russian and East European Film	3-4
THR 1010	Introduction to the Theatre	3
THR 1041	Musical Theatre Appreciation	3

Natural Scientific Inquiry (NSI)

After successful completion of this requirement, students will be able to demonstrate their ability to:

- Describe the natural world using physical laws
- Identify and define the basic concepts and methods of scientific inquiry.
- Analyze data based on mathematical and/or scientific methods.
- Apply the scientific method through experiments.

Code	Title	Credits
ANT 2110	Introduction to Physical Anthropology	3
AST 2010	Descriptive Astronomy [1]	4
BIO 1030	Biology Today	3
BIO 1050	An Introduction to Life [1]	4
BIO 1500	Basic Life Diversity [1]	4
BIO 1510	Basic Life Mechanisms [1]	4
BIO 2200	Introductory Microbiology [1]	5
CHM 1000	Chemistry and Your World [1]	4
CHM 1020	Survey of General Chemistry [1]	4
CHM 1220	General Chemistry I [1]	4
CHM 1225	General Chemistry I for Engineers [1]	3
GEL 1010	Geology: The Science of the Earth [1]	3
HON 4220	Seminar in Life Science	3
HON 4230	Seminar in Physical Science	3
NFS 2030	Nutrition and Health [1]	3
PH 2100	Introduction to Public Health	3
PHY 1020	Conceptual Physics: The Basic Science [1]	4
PHY 2130	Physics for the Life Sciences I [1]	4
PHY 2170	University Physics for Scientists I [1]	4
PHY 2175	University Physics for Engineers I	4
PHY 3100	The Sounds of Music [1]	4
PSY 1010	Introductory Psychology [1]	4
PSY 1020	Elements of Psychology	3

[1] Courses can satisfy the laboratory requirement when elected for appropriate credits and/or with the appropriate laboratory.

Global Learning Inquiry (GL)

After successful completion of this requirement, students will be able to demonstrate their ability to:

- Compare one's own position, core values, and biases to those in other national and global communities.
- Identify and examine historical legacies that have created the dynamics and tensions of the world.
- Analyze how perceptions and beliefs are created by differing historical, scientific and cultural contexts.
- Exhibit the intercultural competencies necessary to move across boundaries and unfamiliar territory, see the world from multiple perspectives, and/or sustain difficult conversations in the face of highly emotional and perhaps uncongenial differences.
- Use analytical reasoning skills to articulate informed and humane solutions to complex global concerns.

Code	Title	Credits
AFS 3250	Politics and Culture in Anglophone Caribbean	3
AFS 3420/ PS 3820	Pan Africanism: Politics of the Black Diaspora	4
AFS 3610	Interdisciplinary Perspectives on Foreign Culture: The Africans	4
AH 1130	Encounters with the Arts of Global Africa	3
AH 3470	Islamic Art and Architecture	3
ANT 2400	Food and Culture	3
ANT 3100	World Cultures	3
ANT 3150	Anthropology of Business	3-4
ANT 3200	Lost Cities and Ancient Civilizations	3
ANT/GLS/PH 3410	Global Health	3
ANT 3520	Understanding Africa: Past, Present and Future	3
ANT 3540	Cultures and Societies of Latin America	3
ANT 3550	Arab Society in Transition	3
ANT 3560	World's Religions	3
ANT/GLS 3700	Globalization: Theories, Practices, Implications	3
ARB 2010	Intermediate Arabic I	4
ARM/GER/POL/ RUS/SLA 3410	New Soil, Old Roots: The Immigrant Experience	3
ASN/HIS 1710	History of Modern East Asia	3

CHI 2010	Intermediate Chinese	4
CHI 2050	Gateway to Chinese Civilizations	3
CRJ 3900	Comparative Criminal Justice	3
COM 4300	Intercultural Communication	3
DNC 2000	Introduction to World Dance	3
DNC 2400	Introduction to African Dance	3
ENG 2540	Literatures of the World	3
ENG 2670	Introduction to Canadian Studies	3
ENG 2730	Languages of the World	3
FRE 2010	Intermediate French	4
FRE 2710	Introduction to French Civilization I	3
FRE 2720	Introduction to French Civilization II	3
GER 2010	Intermediate German	4
GER 2710	Resistance, Rebellion, Revolution: Transitional Moments in German Culture and History	3
GKA 2010	Intermediate Ancient Greek I	4
GKM 2010	Intermediate Modern Greek I	4
GKM 3710	Modern Greek Literature and Culture in English	3-4
GLS 2700	Introduction to Global Stories	3
GLS/HIS 2800	Introduction to Global Issues and Institutions	3
GPH/HIS/PS 2700	Introduction to Canadian Studies	3
GSW 2600/ HIS 2605	History of Women, Gender and Sexuality in the Modern World	3
HEB 2010	Intermediate Hebrew I	4
HIS 1000	World Civilization to 1500	4
HIS 1400	The World Since 1945	4
HIS 1610	African Civilizations Since 1800	3-4
HIS 1800/ NE 2030	The Age of Islamic Empires: 600-1600	3
HIS 1810/ NE 2040	The Modern Middle East	3
HIS/LAS 1910	Latin America from Independence to the Present	3
HIS 2440/ LAS 2410	History of Mexico	3
HON 4260	Seminar in Foreign Culture	3
ITA 2010	Intermediate Italian	4
ITA 2710	Italy and Italians I	3
ITA 2720	Italy and Italians II	3
ITA 2991	Italian Fairy Tales	3
JPN 2010	Intermediate Japanese I	4
JPN 2720	Japanese Culture through Myth, Fairy Tales, and Media	3
JPN 4550	Japanese Culture and Society I	4
JPN 4560	Japanese Culture and Society II	4
LAS 2100/ SPA 2400	Chicano/a Literature and Culture	3
LAS 2420	History of Puerto Rico and Cuba	3
LAT 2010	Intermediate Latin	4
LIN 2730	Languages of the World	3
MUH 1340	Music Appreciation: World Music	3
MUH 1345	Music Cultures	3
MUH 1370	Music Appreciation: Beginnings to the Present	3
MUH 5340	Survey of World Music	3
NE 2000	Introduction to Islamic Civilization of the Near East	3
NE 3225	Modern Israeli Culture: A Pluralistic Perspective	3
NE 3550	Arab Society in Transition	3
NUR 3200	Global Healthcare	3
NUR 4800	Transcultural Health Through the Life Cycle	3
PHI 2150	Chinese Philosophy	3
PHI/NE 2170	Islamic and Near Eastern Philosophy	3
POL 2010	Intermediate Polish	4
POL 2710	Survey of Polish Culture	3
RUS 2010	Intermediate Russian I	4
RUS 2710	Introduction to Russian Culture	3
SOC 2510	People on the Move	3
SPA 2010	Intermediate Spanish	4
SWA 2010	Intermediate Swahili	4
THR 5751	Study Abroad: Moscow Art Theatre School	3

Diversity, Equity and Inclusion Inquiry (DEI)

After successful completion of this requirement, students will be able to demonstrate their ability to:

- Compare complex categories of social group memberships as they relate to our local and national contexts, democratic traditions, and contemporary struggles.
- Recognize the relationship between contemporary diversity-related issues and U.S. history, institutions, practices, and policies.
- Examine the roots of individual cultural values and prejudices and how they influence behavior.
- Identify the ethical and moral issues present in complex domestic situations and articulate informed responses to ambiguity and disagreement.
- Demonstrate understanding of the key issues of the course by analyzing, proposing, or engaging in strategies that promote equity at the local or national level.

Code	Title	Credits
AFS 1010	Introduction to African American Studies	3
AFS 2010	African American Culture: Historical and Aesthetic Roots	4
AFS 2210	Black Social and Political Thought	4
AFS/HIS/US 2350	Black Detroit	3
AFS/ENG 2390	Introduction to African-American Literature: Literature and Writing	3
AFS/SOC 2600	Race and Racism in America	3
AFS/HIS 3140	African American History I: 1400-1865	3-4
AFS/HIS 3150	African American History II: 1865-1968	3-4
AFS/HIS 3155	African American History III: 1968 - Present	3-4
AFS/HIS 3160	Black Urban History	4
AFS/HIS 3170	Ethnicity and Race in American Life	3-4
AFS/HIS 3180	Black Social Movements	4
AH 3750	African American Art	3
ANT 2020	Global Detroit	3
ANT 3520	Understanding Africa: Past, Present and Future	3
ANT 3530	Native Americans	3
ANT 3540	Cultures and Societies of Latin America	3
ANT/NE 3550	Arab Society in Transition	3
ANT 3560	World's Religions	3
APH 5860	Social Documentary: Community, Compassion, and Activism	3

ARM/GER/POL/ RUS/SLA 3410	New Soil, Old Roots: The Immigrant Experience	3
BA 1040	Managing Diversity in the Workplace	3
COM 2300	Intercultural Communication	3
COM 4300	Intercultural Communication	3
CRJ 2550	Race, Crime and Justice	3
CRJ/GSW 2650	Gender and Crime	3
CRJ/GSW 2750	Diversity Issues in Criminal Justice	3
ENG 2530	Literature and Identity	3
ENG 2570	Literature By and About Women: Literature and Writing	3
GSW 2500	Humanities Perspectives on Gender, Sexuality, and Women	3
GSW 2600/ HIS 2605	History of Women, Gender and Sexuality in the Modern World	3
GSW 2700	Social Science Perspectives on Gender, Sexuality, and Women	3
HIS/LAS 1910	Latin America from Independence to the Present	3
HIS 2530/ PCS 2050/ PS 2550/ SOC 2050	The Study of Non-Violence	3
HIS 3240/ PS 3250	Detroit Politics: Continuity and Change in City and Suburbs	4
HIS/US 3650	History of Detroit	3
HON 1000	The City: Changing Detroit	4
LAS 1420	Introduction to Interdisciplinary Latino/a Studies Research	3
LAS 2100/ SPA 2400	Chicano/a Literature and Culture	3
LAS 2110/ SPA 2500	Puerto Rican Literature and Culture	3
LAS 2420	History of Puerto Rico and Cuba	3
MUH 1350	History of American Popular Music	3
MUH 1351	History and Styles of Rock and Roll	3
MUH 3360	Jazz History	3
PHI 1100	Contemporary Moral Issues	3
PHI 1110	Ethical Issues in Health Care	3
PHI 1500	Race, Sex, and Religion	3
PHI 2360	Feminist Philosophy	3
SAM 3020	Sociology of Sport	3
SOC 1020	Social Problems	3
SOC 2300	Social Inequality	3
SW 1010	Introduction to Social Work and Social Welfare	3
THR 1030	Introduction to Black Theatre and Performance	3
THR 5821	Black Dramatic Literature and Performance	3

Civic Literacy Inquiry (CIV)

Civic literacy is a critical component of preparing students to contribute to local, national, and international communities. Inquiry into civic literacy entails asking questions about the relationship of the individual with the public sphere. This inquiry will provide students with foundational knowledge about the diversity of interests in American society over time, both domestic and abroad, especially those pertaining to race, ethnicity, and gender; the mechanisms by which individuals and groups have pursued their interests; and the role of institutions in addressing conflict. Students completing the course will apply the knowledge, concepts, and critical thinking skills from the course to make well-reasoned, informed, and ethical political decisions. After successful completion of this requirement, students will be able to demonstrate their ability to:

- Exhibit knowledge of U.S. history, political institutions, and democratic principles;
- Define the meaning and significance of citizenship and national identity, past and present;
- Identify examples of effective forms of participation by individuals and groups;
- Explain the economic, historic, political, and social bases for conflict and cooperation between groups;
- Apply concepts from the course to critically evaluate differences related to race, ethnicity, and gender.

Code	Title	Credits
AFS 2210	Black Social and Political Thought	4
AFS 3250	Politics and Culture in Anglophone Caribbean	3
CRJ/PS 3120	Politics of the Criminal Justice Process	3
HIS 1050	History of the Headlines: United States Since World War II	3
HIS 1060	Law, Citizenship, and American Culture	3
HIS 2040	American Foundations to 1877	3-4
HIS 2050	Modern America: Since 1877	3-4
PS 1000	Introduction to Political Science	3
HON 1000	The City: Changing Detroit	4
PS 1010	American Government	4
PS 1030	The American Governmental System	3
PS 3080	Gender and Politics	4

Wayne Experience

The Wayne Experience (WE), a one credit course required of all first year students, will play an instrumental role in socializing students into the university community by providing activities that will increase their connections with fellow students, academic advising staff, and their instructors. The essential goals for this requirement are to enhance student engagement, success, and retention by implementing high-impact practices (HIPS) within a student's first year in college. Wayne Experience will also help students build key skills and habits that will allow them to successfully navigate the university and manage their busy lives. These would range from time management, studying, and test taking skills to engaging in community activities both on and off campus. Student motivation, engagement, learning, achievement, persistence and degree attainment all can be fostered by these transformative educational experiences.

Transfer students: Wayne Experience (WE) will be automatically waived if a student transfers a minimum of 24 credits to WSU. Advanced Placement (AP) tests, International Baccalaureate (IB) tests, CLEP exams, and High School Dual Enrollment do not count towards waiving WE.

Goals

1. Belonging: will foster a sense of belonging and connection; cultivate the development and expanding of relationships; meet students where they are; and promote their sense of personal purpose at Wayne State University.

2. Acculturation to academic community: will promote an understanding of what it means to be a Wayne State Student, including grasping the value of a liberal education and general education along with linking theory to practice by participating as a member of a diverse and inclusive academic community.

3. WSU in Detroit: will cultivate an understanding of WSU's role in local cultures and history as well as develop an appreciation of how public service can transform individuals and diverse communities.

4. Academic Support and Study Skills: will promote the understanding of and use of the full spectrum of academic support services to collectively empower students to transform themselves into self-directed learners and powerful problem-solving.

Learning Outcomes

In this broad category, specific learning outcomes may vary from offering to offering but draw from the LEAP Essential Learning Outcomes, as adapted through our general education reform process.

After successful completion of this requirement:

- Describe meaningful connections with Wayne State peers, faculty, staff, and resources.
- Describe the purpose of a liberal education.
- Describe the relationship between theory, research, and practice within the context of a diverse, inclusive academic community.
- Describe Wayne State's role in public service.
- Describe the university's effect on Detroit's culture and history.
- Map strategies for personal and academic success that incorporate student support services.

Courses

Courses currently approved for Wayne Experience include:

Code	Title	Credits
BA 1100	Warrior Success	1
BE 1060	Building a Foundation for College Success	1
FPC 1020	Wayne Experience: Building a Foundation for College Success	1
FYS 1010	Learning with the Brain in Mind	1
HON 1110	Passport to Detroit	1
KHS 1010	Wellness at Wayne	1
RSE 1010	Building a Foundation for College Success	1

Honors Curricula

The University's honors curricula serve to challenge highly motivated students through courses of advanced study; to provide academic programs of unusual breadth and depth; to provide recognition of outstanding scholastic achievement; to foster interest in research and scholarly activity; and to provide students an opportunity to work with outstanding faculty.

Dual Recognition: Students who complete the requirements for University Honors and, in addition, the requirements of a College/Department Honors Program, shall have both designations on the transcript and the diploma. Only a single senior essay, thesis, or project shall be required.

More information about both University Honors and departmental Honors is available online (http://www.honors.wayne.edu) and at the Honors College as well as through the respective departments/colleges.

University Honors Curriculum

The University-wide Honors curriculum, managed by the Irvin D. Reid Honors College, allows undergraduate students in any College or School to pursue individually-designed Honors Programs which complement their majors.

Benefits of membership in the Honors College include Honors advising, Honors pre-priority registration, Honors sections of general education and major courses, and designation of completion of the Honors curriculum on the diploma and transcript.

Admission: Students with excellent academic records are eligible to apply to the University's Irvin D. Reid Honors College. Normally, the following are required:

Entering Freshmen: Entering freshmen admitted to the University by December 1 are considered for acceptance to the University Honors curriculum. Consideration is based on regular University admission; no further application is required. Invited freshmen are invited to participate in the Honors College scholarship event, Scholars Day.

Matriculated Students and Transfer Students: Students who have a minimum cumulative grade point average of 3.3 or above at Wayne State University may apply for acceptance to the Honors College. Applications are available at the College.

Eligibility to register for Honors courses: Students whose cumulative grade point average is at least 3.3, but who are not formally in the Honors College, are eligible to elect honors courses to enrich their educational experiences.

Retention: The academic record of each student shall be reviewed at regular intervals. To remain in the University Honors College, a student normally shall be expected:

1. to pursue a course of study consistent with the objectives of the Honors College, as recommended by the University Honors Council and approved by the President or his/her designee; and
2. to maintain a cumulative grade point average greater than or equal to 3.3; however, Colleges/Departments may establish a higher g.p.a. requirements for retention in a College/Department program.

A student whose cumulative grade point average is below 3.3 and is, for that reason, dropped from the Honors College, may reapply when his/her cumulative g.p.a. is 3.3 or higher.

University Honors Requirements

The College shall require Honors-designated course work totaling a minimum of twenty-eight credits for the baccalaureate program the student is pursuing. Students in this College MUST SATISFY THE GENERAL EDUCATION REQUIREMENTS, but the approved General Education courses may differ for the Honors College after review by the Honors Council and the General Education Implementation Committee and approval by the President or his/her designee. The Honors College General Education core curriculum will define a common body of knowledge beginning with the freshman Honors first-year sequence, and including a specified complement of Honors courses chosen from existing General Education options as determined by individual departments in consultation with the College.

Graduation: For graduation with University Honors, students must have a minimum cumulative grade point average of 3.3, and must complete a minimum of twenty-eight credits in honors-designated course work (including HON 1000, the Honors section of PS 1010, a service learning course with HON 3000, at least one HON 4200-level Honors seminar and a minimum of three credits in an independent research project, essay, or thesis). Graduates of the University Honors College will be so recognized on the transcript and diploma.

College or Department Honors Requirements

Undergraduate departments in Colleges and Schools have developed programs leading to honors degrees. Details of these programs are included in the College and Department sections of this Bulletin.

College or Department Honors Curricula require a minimum of twelve credits in honors-designated course work of which at least three credits may be in an independent research project, essay, or thesis in the student's College/Department and at least one HON 4200-level Honors seminar. Students also must meet the requirements of their major fields. The honors requirements for the major may include approved modifications of normal major requirements.

Graduation: For graduation with department honors, students must meet the requirements approved by their department/college/school, including a minimum 3.30 grade point average, an Honors thesis and at least one Honors seminar.

Graduation with Distinction

Wayne State University bestows upon students completing the baccalaureate degree three separate designations for scholastic excellence reflected in the cumulative grade point average: Cum Laude, Magna Cum Laude, and Summa Cum Laude.

Graduation with distinction will be indicated on the student's diploma and on the transcript.

Graduation with Distinction will recognize at each graduation the top twenty per cent of students in each College who have earned the highest grade point average in their Colleges, with the following approximate distribution:

- *Summa Cum Laude:* Top five percent
- *Magna Cum Laude:* Next five percent
- *Cum Laude:* Next ten percent

The specific minimum grade point averages will be determined each year in the following manner, but graduation with distinction will not be awarded in cases of any g.p.a. less than 3.0.

Based on the grade point average distributions of the previous year's senior class, the grade point average cut-offs for each College will be established to provide for recognition of the top eighteen to twenty per cent of the graduating students.

The criteria for Graduation with Distinction include:

1. A minimum of sixty credits in residence at Wayne State University.
2. A qualifying minimum grade point average (calculated as explained above) on all course work at Wayne State University must be completed by the end of the semester of graduation. (For notation in the commencement program, the grade point average on all course work completed prior to the semester of graduation will be used.)

Office of International Programs

4228 Faculty/Administration Building; Phone: 313-577-8968; Fax: 313-577-5666
Associate Vice President for Educational Outreach and International Programs: Ahmad Ezzeddine
Director of Operations: Rebecca Journigan
Associate Director: Jaclyn Assarian
Associate Director, Student Programs: Fareed Shalhout
Project Coordinator: Margaret Hall

http://www.oip.wayne.edu

The Office of International Programs (OIP) is responsible for coordinating the University's resources and expertise to support international education on and off campus, to expand the university's global presence, and to facilitate the engagement of students, faculty, and staff with its global agenda. It also connects the metropolitan Detroit community with other university constituencies, locally and abroad. OIP encompasses the followings programs and activities:

- the Office of International Students and Scholars
- Study Abroad and Global Programs
- the English Language Institute

Office of International Students and Scholars (OISS)

416 Welcome Center; 313-577-3422; Fax: 313-577-2962
Director: Kelli Dixon
http://www.oiss.wayne.edu

The mission of OISS is to support and enhance the educational, cultural, and social experiences of the more than 2000 international students and scholars at Wayne State University. OISS is the University's main point of contact for issues related to international students and scholars' immigration regulation compliance.

OISS staff advise students and scholars on immigration regulations and issues of cross-cultural adjustment; provide educational, cultural and social programs and activities, including a comprehensive orientation program and written materials designed to help arriving students and scholars achieve their educational and personal goals; assist University departments in the hiring of foreign national employees, consult and interact with University units, governmental organizations and other agencies.

Academic Progress for International Students

Department of Homeland Security regulations require:

1. That F-1 and J-1 students maintain a full course of study and make normal academic progress toward program completion at the institution they have been authorized to attend.
2. Graduate students must successfully complete at least eight credits each semester (excluding continuing students who qualify for an annual vacation semester during Spring/Summer or have been granted an exception to full-time enrollment). Undergraduate students must successfully complete at least twelve credits each semester (excluding continuing students who qualify for an annual vacation semester during Spring/Summer or have been granted an exception for full-time enrollment).
3. Graduate Teaching Assistants and Graduate Research Assistants must successfully complete at least eight credits each semester (excluding students who qualify for a vacation semester during Spring/Summer or an approved annual vacation). If GTAs/GRAs need to take less than eight credits, they must complete the OISS Request for Exception to Full Time Enrollment form and obtain approval from OISS. Students should consult an OISS advisor for details on compliance with this and other requirements.

New International Students and Scholars

New International Students and Scholars receive the OISS welcome booklet with their visa document (Form I-20 or DS 2019) before they leave their home country. The booklet provides information on a wide variety of important topics such as housing, health insurance, expenses, immigration status, local climate, and air transportation. New students and scholars from abroad must report to OISS as soon as they arrive and must participate in a comprehensive orientation program. This program is designed to meet immediate needs in terms of housing information and University registration procedures; introduce them to U.S. culture and the University's educational system; and provide information on banking, health insurance, safety, and immigration regulations. In addition, a number of social and recreational programs and activities are planned to assist students and scholars in making a smooth transition to their new environment

Non-Immigrant International Students

Before registering for classes, all non-immigrant international students must report to OISS to complete check-in procedures and have immigration documents reviewed, purchase mandatory health insurance (see below), and obtain an orientation schedule. Transferring F-1 students from other U.S. institutions must have their previous school release their Student and Exchange Visitor Information System (SEVIS) record to Wayne State University and must complete transfer procedures as provided in the federal regulations within fifteen days of the first day of class. F-1 students must notify the OISS of any change in name, address, program (including changes in level and field of study), and full-time enrollment. OISS must provide this information to Immigration and Customs Enforcement (ICE) through the Student and Exchange Visitor Information System (SEVIS). J-1 exchange visitors, including students, may not make a change in level, field, or category without the advance approval of the Department of State, and may be precluded from change of visa status until a two-year home country residency requirement is met.

Commuting Canadian Students

Canadian students (commuters) enrolled less than full time must obtain a part-time I-20 from OISS each semester they are enrolled and should consult with an OISS advisor to determine the impact of their status on future immigration benefits including the availability of practical training.

International Faculty and Research Scholars

The University provides foreign professors and research scholars with opportunities to engage in research, teaching, consulting, and lecturing with colleagues at Wayne State; to participate actively in cross-cultural activities; and to share their experience as well as increase their knowledge about the United States, Wayne State University, and the metropolitan Detroit community. OISS provides centralized support services necessary to enable and assure the employability of such non-U.S. citizens within government regulations. Offers of employment to foreign nationals must be authorized by OISS, and only this Office may sign immigration forms and petitions related to employment on behalf of the University. All foreign national employees must complete USCIS Form I-9, 'Employment Eligibility Verification' and present evidence of their identity and employment eligibility at OISS before commencing employment at Wayne State University.

Health Insurance (International Students and Scholars)

416 Welcome Center; 313-577-3422; Fax: 577-2962

Health Insurance Advocate: 313-577-0724

International students and scholars, and their dependents holding F1/F-2 status and J-1 exchange visitors and their dependents holding J-1/J-2 status are required to comply with the health insurance requirements of the University. Commuting Canadian students may waive the health insurance requirement by providing proof of OHIP coverage prior to each semester of enrollment. The mandatory international insurance program is designed to provide international students, exchange visitors, and their eligible dependents with continuous insurance protection and access to quality affordable health care services. The University is mandated by federal law to terminate from its program all exchange visitors and their dependents who do not meet minimum insurance requirements. For additional information or to purchase health insurance please access the OISS website (http://www.oiss.wayne.edu) or contact the Health Insurance Advocate in OISS; telephone: 577-0724 or e-mail oissmail@wayne.edu

Cross-Cultural Activities

The OISS provides cross-cultural activities in order to provide exposure to American society, culture, and institutions. Activities include: International Education Week, new international student learning community, a free international coffee hour held every two weeks on Wednesdays from 11:30 a.m. to 1:30 p.m. Coffee hour provides opportunity for dialogue with and among international students and scholars, American students, and the WSU community. Other activities include monthly sessions on employment options, internships, cross cultural adjustment and more.

Study Abroad and Global Programs Office

906 W. Warren Avenue; 131 Manoogian Hall; 313-577-3207
Director: Kelli Dixon
http://www.Studyabroad.wayne.edu

Study Abroad and Global Programs coordinates international educational activities at Wayne State University. Key activities include:

1. the management of WSU faculty-led study abroad programs and exchange agreements;
2. the administration of the Hostelling International Travel Award for students to encourage international study, research and internship abroad initiatives;
3. the administration for the NSEP - David Boren Scholarship;
4. the administration of the U.S. Student Fulbright Program;
5. the coordination and support of internationally-themed events; and
6. the development and management of international outreach activities and off-campus programs including agreements between Wayne State University and universities outside the United States.

Study Abroad programs are offered in collaboration between academic departments and faculty of both U.S. and foreign institutions, in order to combine academic study with a cross-cultural learning experience in a foreign environment. A variety of program options have been developed to address the diverse needs of students. Programs vary in length, level, academic focus, teaching format, language requirements, cost, and degree of independence demanded of the participant.

The office provides a full range of support services to students on such issues as program selection, academic planning, registration, credit, financial aid, and cultural adjustment. In addition, program materials have been designed specifically to assist students in preparing for their study abroad experience. Books, brochures, catalogs on academic and travel/study programs in foreign countries are available at the Study Abroad Resource Center, including information on Wayne State's thirty-three

study abroad programs and other programs sponsored by American and foreign institutions.

For a complete and current list of WSU Study Abroad programs, learning experiences, and services, please contact the Study Abroad and Global Programs Office (http://studyabroad.wayne.edu).

Arabic Language and Culture at the Lebanese American University, Beirut

This program provides opportunities for WSU students to study Arabic language and culture abroad. During the summer, WSU students may take a variety of language and culture classes while living abroad in Lebanon.

Japan Center for Michigan Universities

The Japan Center for Michigan Universities (JCMU) is a consortium consisting of the fifteen State-supported Michigan public universities, the Michigan Japan Foundation, and Shiga Prefecture. JCMU offers semester- and year-long study opportunities in Hikone, Japan.

The Center's academic program is designed for students interested in acquiring knowledge about Japanese language and culture, including those not majoring in Japanese studies. It provides semi-intensive Japanese language courses and several core courses on Japanese culture to Michigan and other American university students. Academic credit may be granted by a student's home institution upon successful completion of JCMU courses; independent study is also available. The program also features home-stays in a Japanese community, field trips, and participation in cultural events.

Other International Opportunities: Numerous short-term special international study trips for credit are available to Wayne State students.

International Students requiring information on study at Wayne State University should contact the Office of International Students and Scholars (http://www.oiss.wayne.edu).

Resource Center

Books, brochures, catalogs and advising on travel/study programs in foreign countries are available at the Resource Center, including information on Wayne State sponsored study abroad programs and programs sponsored by U.S. and foreign institutions. Course credit is available on approval for many study abroad programs; credit approval usually must be obtained prior to entering a study abroad program.

Honors College

The Irvin D. Reid Honors College has study abroad experiences; for information, see the Honors College section in the WSU Undergraduate Bulletin.

Fulbright Grants and other grants for graduate study abroad

The U.S. Fulbright student program (http://us.fulbrightonline.org) is designed to give recent B.S and B.A. graduates, masters and doctoral candidates, and young professionals and artists opportunities for personal growth and international experience. Each year the Fulbright Program allows Americans to study or conduct research in over 100 nations. Application deadline depends on the specific program but generally it must be submitted to the campus Fulbright advisor by September of the year prior to the foreign study experience.

Fulbright-Hays Doctoral Dissertation Research Abroad Program (http://eca.state.gov/fulbright/fulbright-programs/program-summaries/fulbright-hays-program): Provides grants to colleges and universities to fund individual doctoral students to conduct research in other countries in modern foreign languages and area studies for periods of 6 to 12 months. Proposals focusing on Western Europe are not eligible.

English Language Institute (ELI)

351 Manoogian Hall, 313-577-2729
Director: Bruce Morgan
http://www.Eli.wayne.edu

As the only intensive English language program in the metropolitan Detroit area, the English Language Institute (ELI) has specialized in teaching academic preparation skills, English communication, and cultural orientation to non-native speakers of English from all over the world for more than forty years. The ELI is committed to assisting individuals at all levels to develop their communication skills in the shortest possible time by using the newest language-teaching methodology and the most up-to-date audio, video, and computer technology available. Small classes and highly trained instructors make it possible for students to improve their English rapidly and effectively.

Programs

Intensive Program: For students interested in improving their academic skills in a relatively short period of time, the ELI offers up to twenty hours per week of instruction at varying levels from beginning to advanced. While beginning levels focus on basic communicative skills, advanced classes emphasize mastery of the academic skills needed to succeed in the university such as essay writing, note-taking, and presenting information to an audience.

In addition to attending class, ELI students are encouraged to participate in weekly extracurricular activities in order to become integrated into the English-speaking community. Each semester the ELI offers field trips around the metro-Detroit area, conversation partner practice with native speakers, and socio-cultural activities while at the same time encouraging students to take advantage of all university facilities and services.

Test of English as a Foreign Language (TOEFL) Testing and Reporting: To ensure international students will be successful in the University, all must meet Wayne State's English proficiency requirements or complete the highest level of ELI. The ELI administers the TOEFL ITP® monthly on the main campus. Scores are then reported to the applicants as well as Undergraduate and Graduate Admissions.

Graduate Teaching Assistant (GTA) Training and Testing: All prospective GTAs whose native language is not English must pass the SPEAK® test, rated by ELI faculty, with a score of at least fifty (out of sixty) to be cleared for teaching. A score of forty-five allows a person to teach while enrolling in ELI 0520, a course taught by two ELI faculty members. The final exam, also rated by ELI faculty as well as a faculty member from the academic department, is a teaching demonstration in the GTA's field of study. The SPEAK® test is offered at various times throughout the academic year. ELI 0520 is offered fall and winter semesters.

Scholarly Writing for Graduate Students: Non-native English speaking Ph.D. candidates who need to publish in scholarly journals and meet other professional obligations can take a course designed specifically to meet their needs. ENG 5850 is a course supported by the Graduate School and taught by ELI faculty each semester.

English Language Institute Courses (ELI)

The following courses, numbered 0100-0999, are not offered for degree credit. For registration in any of these courses students should contact the English Language Institute.

ELI 0100 Level 1: Oral Integrated Cr. 2,4
The focus of this course is to develop students' basic listening and speaking skills necessary for everyday life. They will learn basic listening strategies, interact with others about simple topics, and produce simple sentences and questions with target vocabulary. Students will practice articulating consonant and vowel sounds correctly and produce accurate stress and intonation patterns. Offered Every Term.
Restriction(s): Enrollment is limited to English Language Institute level students.
Repeatable for 4 Credits

ELI 0110 Level 1: Written Integrated Cr. 2,4
The focus of this course is to introduce basic writing and grammar skills. Students will produce simple sentences on topics related to their personal needs. Timed and multi-draft writings will include simple sentences, correct use of capital and lower case letters, legible handwritten letters, and appropriate vocabulary. Basic grammatical structures will be introduced. Offered Every Term.
Restriction(s): Enrollment is limited to English Language Institute level students.
Repeatable for 4 Credits

ELI 0120 Level 1: Reading and Vocabulary Cr. 2,4
The focus of this course is to increase students' ability to read and comprehend simple material and to increase their ability to recognize familiar words in everyday contexts. Students will use a picture dictionary and develop vocabulary associated with simple topics. Students will read short texts from basic readers and ELI library books. Offered Every Term.
Restriction(s): Enrollment is limited to English Language Institute level students.
Repeatable for 4 Credits

ELI 0200 Level 2: Oral Integrated Cr. 2,4
The focus of this course is to develop students' abilities to carry on short, sustained conversation. They will apply listening strategies to discuss simple passages. They will interact with classmates. Students will use high-frequency vocabulary to produce simple and compound sentences with correct verb tenses. Students will use connected and reduced speech. Offered Every Term.
Restriction(s): Enrollment is limited to English Language Institute level students.
Repeatable for 4 Credits

ELI 0210 Level 2: Written Integrated Cr. 2,4
The focus of this course is to introduce paragraph writing and to develop basic grammatical understanding. Students will produce paragraphs in a variety of rhetorical modes. Timed and multi-draft paragraphs will include a topic sentence, simple transitions, three main points with some supporting details, and a concluding sentence. Basic grammatical structures will be introduced. Offered Every Term.
Restriction(s): Enrollment is limited to English Language Institute level students.
Repeatable for 4 Credits

ELI 0215 Level 2: Intensive Reading and Vocabulary Cr. 1,2
The focus of this course is to increase students' comprehension of printed material and acquire high-frequency vocabulary. Students will read simplified texts and apply reading skills, such as identifying main ideas and details, inferencing, and understanding sequence. Students will acquire vocabulary by using definitions from the text, interpreting from the context, and using dictionary skills. Offered Every Term.
Restriction(s): Enrollment is limited to English Language Institute level students.
Repeatable for 2 Credits

ELI 0220 Level 2: Communicative Grammar Cr. 1,2
The focus of this course is to build students' communicative competence, or their ability to communicate effectively and appropriately. To that end, basic grammar points will be studied and practiced in ways that simulate everyday conversations and scenarios. Students will engage in a variety of communicative activities that focus on speaking and writing. Offered Every Term.
Restriction(s): Enrollment is limited to English Language Institute level students.
Repeatable for 2 Credits

ELI 0300 Level 3: Oral Integrated Cr. 2,4
The focus of this course is to develop students' emerging academic listening and speaking skills. Students will apply listening and speaking strategies. They will also give short presentations. Emphasis will be on generating compound and complex sentences using simple academic vocabulary. Students will pronounce English sounds accurately and follow intonation and stress patterns appropriately. Offered Every Term.
Restriction(s): Enrollment is limited to English Language Institute level students.
Repeatable for 2 Credits

ELI 0310 Level 3: Written Integrated Cr. 2,4
The focus of this course is to produce well-developed paragraphs in a variety of rhetorical modes on academic topics. This course will culminate in an introduction to essay writing. Intermediate grammatical structures, such as complex sentences, adjective clauses, and the present perfect, will be introduced. Error-correction tasks, peer evaluations, and self-evaluations will develop self-editing skills. Offered Every Term.
Restriction(s): Enrollment is limited to English Language Institute level students.
Repeatable for 2 Credits

ELI 0315 Level 3: Intensive Reading and Vocabulary Cr. 1,2
The focus of this course is to increase students' vocabulary and comprehension of longer and varied reading passages. Students will also be able to understand the structure of a text with transition words and the relationship between the main point(s) and supporting examples. Strategies to discern meaning of words from context will also be practiced. Offered Every Term.
Restriction(s): Enrollment is limited to English Language Institute level students.
Repeatable for 2 Credits

ELI 0320 Level 3: Extensive Reading Cr. 1,2
The focus of this course is to increase students' reading fluency by reading large quantities of texts. Class Readers will give the teacher the opportunity to help the students acquire the art of extensive reading, to improve their skills, and to monitor their progress closely. Students will choose their own texts for independent reading. Offered Every Term.
Restriction(s): Enrollment is limited to English Language Institute level students.

ELI 0400 Level 4: Oral Integrated Cr. 2,4
The focus of this course is to develop students' academic listening and speaking skills needed for successful extended academic discourse. Students will demonstrate detailed understanding of academic listening passages. Students will use speaking strategies for academic discussions and to summarize information. They will give speeches using visuals, transitions, and grammatically-correct sentences with academic vocabulary. Offered Every Term.
Restriction(s): Enrollment is limited to English Language Institute level students.
Repeatable for 4 Credits

ELI 0410 Level 4: Written Integrated Cr. 2,4
The focus of this course is to develop students' essay writing skills and improve accuracy in grammar, mechanics, and spelling. Essays will be produced in a variety of rhetorical modes on academic topics that include some authentic sources. Students will also be introduced to summarizing and citing authentic sources. Complex grammatical structures will be introduced. Offered Every Term.
Restriction(s): Enrollment is limited to English Language Institute level students.
Repeatable for 4 Credits

ELI 0415 Level 4: Intensive Reading and Vocabulary Cr. 1,2
The focus of this course is to increase students' academic vocabulary and comprehension of academic reading passages. Students will identify the structure, purpose, and connection between ideas in texts. Students will use strategies to discern meaning of words from context. They will acquire knowledge of word forms and will use dictionary skills to build vocabulary. Offered Every Term.
Restriction(s): Enrollment is limited to English Language Institute level students.
Repeatable for 2 Credits

ELI 0420 Level 4: Extensive Reading Cr. 1,2
The focus of this course is to increase students' reading fluency by reading large quantities of texts. Class Readers will give the teacher the opportunity to help the students acquire the art of extensive reading, to improve their skills, and to monitor their progress closely. Students will choose their own texts for independent reading. Offered Every Term.
Restriction(s): Enrollment is limited to English Language Institute level students.
Repeatable for 2 Credits

ELI 0500 Level 5: Oral Integrated Cr. 2,4
The focus of this course is to develop students' academic listening and speaking skills needed for successful extended academic discourse. Students will use listening strategies to show detailed understanding of lengthy academic listening passages. They will apply speaking strategies to share information and communicate with automaticity. Concentration will be on consistently speaking intelligibly and fluently. Offered Every Term.
Restriction(s): Enrollment is limited to English Language Institute level students.
Repeatable for 4 Credits

ELI 0510 Level 5: Written Integrated Cr. 2,4
Students will develop critical thinking skills through reading, writing, and classroom discussion. Students will write well-developed five- to eight-paragraph essays and relate assigned readings to their own experience. Students will learn how to incorporate outside sources into their essays and use appropriate citations. Advanced grammatical structures will be reviewed and expanded as necessary Offered Every Term.
Restriction(s): Enrollment is limited to English Language Institute level students; enrollment is limited to students with a major, minor, or concentration in English Language Institute.
Repeatable for 4 Credits

ELI 0515 Level 5: Research Skills Cr. 1,2
The focus of this course is to introduce skills essential to conduct academic research at the university level. Students will learn how to search for and evaluate academic sources in the library and online databases as well as how to read, analyze, and use the information gathered. The course also focuses on paraphrasing and summarizing. Offered Every Term.
Restriction(s): Enrollment is limited to English Language Institute level students.
Repeatable for 2 Credits

ELI 0520 English for Teaching Assistants Cr. 2
American English language skills to improve teaching effectiveness of non-native speakers of English. Pronunciation, stress, intonation, speaking rate; oral presentation practice; cultural factors in U.S. university classroom. Not offered for degree credit. Offered Every Term.
Repeatable for 4 Credits

ELI 0530 TOEFL/Timed Essay Writing Preparation Cr. 1-2
Class designed to enhance student's ability to understand and perform on the Test of English as a Foreign Language (TOEFL) for the paper-based and iBT(Internet)-based formats. Offered Yearly.
Restriction(s): Enrollment is limited to English Language Institute level students; enrollment is limited to students with a major, minor, or concentration in English Language Institute.

ELI 0540 Level 5: Media & Culture Cr. 1,2
The focus of this course is to gain a greater understanding of American culture and current events via extensive reading from print and digital media, leading to written assignments, oral presentations, and discussions. In addition, TV and radio programs, as well as podcasts and documentaries, will provide input for written and oral assignments. Offered Every Term.
Restriction(s): Enrollment is limited to English Language Institute level students.
Repeatable for 6 Credits

ELI 0699 Directed Study Cr. 1-4
Meets the needs of English as a Second Language (ESL) students in their last stages of preparation for matriculation. Based on students' particular needs, instruction will be provided to strengthen various academic preparation skills, including listening and note-taking practice in an academic context, extensive and intensive reading, and expository and research paper writing. Offered Every Term.
Restriction(s): Enrollment is limited to English Language Institute level students; enrollment is limited to students with a major, minor, or concentration in English Language Institute.
Repeatable for 8 Credits

ELI 0700 Written Communication Cr. 1,2
Through reading and writing of complex texts, students improve their understanding and use of American English grammar and mechanics (punctuation and capitalization) for academic and professional settings. Offered Every Term.
Restriction(s): Enrollment is limited to English Language Institute level students.
Repeatable for 2 Credits

ELI 0705 American Pronunciation and Clear Communication Cr. 1,2
Course addresses the communication needs of advanced-level, non-native English speakers who want to reduce the amount of pronunciation errors produced in their speech. Offered Winter.
Restriction(s): Enrollment is limited to English Language Institute level students.
Repeatable for 2 Credits

ELI 0800 Writing Skills I Cr. 3
This course integrates reading, writing, and grammar and focuses on comprehending main ideas and details, inferencing in simplified reading texts, and understanding This course integrates reading, writing, and grammar and focuses on comprehending main ideas and details, inferencing in simplified texts, and understanding vocabulary in context. Students will learn to organize and write paragraphs with simple grammatically correct sentences. Offered Spring/Summer.
Restriction(s): Enrollment is limited to English Language Institute level students.

ELI 0810 Oral Skills I Cr. 3
This course integrates listening and speaking in English and introduces culturally appropriate interaction in speech. Students listen to dialogues, newscasts, and short lectures; give presentations on a variety of topics; and receive individualized feedback on pronunciation. Offered Spring/Summer.
Restriction(s): Enrollment is limited to English Language Institute level students.

ELI 0820 Writing Skills II Cr. 3
This course integrates reading, writing, and grammar and will emphasize how reading and writing are related. Rhetorical modes of essay writing will be introduced, authentic texts will be read, and more advanced grammar points will be covered. Offered Spring/Summer.
Restriction(s): Enrollment is limited to English Language Institute level students.

ELI 0830 Oral Skills II Cr. 3
This course integrates listening and speaking in English and focuses on refining students' abilities to understand academic and informal spoken language by listening to academically-themed lectures and extended dialogues. They will develop critical thinking skills for responding to questions and giving presentations. Offered Spring/Summer.
Restriction(s): Enrollment is limited to English Language Institute level students.

ELI 0840 Writing Skills III Cr. 4
Course integrates reading, writing, and grammar; focuses on reading authentic materials and writing essays. Students work to improve their understanding and use of American English, grammar, and mechanisms for academic settings. Offered Spring/Summer.
Restriction(s): Enrollment is limited to English Language Institute level students.

ELI 0850 Oral Skills III Cr. 4
Course integrates listening and speaking in English and will help students increase their aural/oral fluency through participation in academic/content-based discussions and various other forms of speech in formal, informal, and academic settings. Offered Spring/Summer.
Restriction(s): Enrollment is limited to English Language Institute level students.

ELI 0860 Communication and Culture Cr. 4
This course will involve writing and oral presentations based on academic readings and cultural experiences. Additional instruction in grammar and sentence structure will be provided based on students' needs. Offered Spring/Summer.
Restriction(s): Enrollment is limited to English Language Institute level students.

Records and Registration

Office of the Registrar

In Person Services: Student Service Center, Welcome Center, 42 West Warren
Mailing Address: 5057 Woodward; Suite 5101, Detroit, MI 48202
Telephone: 313-577-3550, Fax: 313-577-7870
h (http://www.reg.wayne.edu)ttp://wayne.edu/registrar (http://wayne.edu/registrar)

The Office of the Registrar supports the instructional, research and service missions of the University by providing a wide variety of academic services to students, faculty and staff. The office consists of several units: The Office of the Registrar prepares academic calendars, assesses tuition and fees, determines residency, and reviews all appeals for exceptions to University enrollment policies. Records and Registration oversees registration, adds, drops, course withdrawals, grading, student personal and academic data, and transcripts/academic records. Curricular Services oversees the preparation of each term's Schedule of Classes, degree audit tools, graduation applications and diplomas. Transfer Credit evaluates coursework from other universities for undergraduate credit at Wayne State University.

Registration

Registration (http://wayne.edu/register) is the process of officially enrolling in classes for a particular term. Students can view the Class Schedule (http://classschedule.wayne.edu) online, add courses to their cart, and complete registration within Academica. A student may not attend any class for which he/she is not officially registered.

POST-BACHELOR STATUS: Students wanting graduate credit should NOT register 'post-bachelor.' This status allows students holding bachelor's degrees from accredited institutions to elect only courses open to undergraduate students (numbered below 7000), which may be used to fulfill prerequisite requirements for graduate admission. Credits for courses elected as a post-bachelor student do *not* count toward graduate credit.

Academica

Academica (http://academica.wayne.edu) is a secure gateway that provides unified access to Wayne State information, services, and computing systems. This comprehensive environment is a one-stop location where WSU students, faculty, and staff can conveniently use online self-service functions and easily access many computing systems, such as the Wayne Connect Email system and the Blackboard Learning System. Using Academica, students also have continual access to specific information and helpful tools needed for communication, collaboration, teaching and learning, and University administration. Current students can use secure self-services to check financial aid, register for and drop/add classes, pay tuition and fees, check holds and final grades, obtain enrollment verifications and transcripts, self-register for training programs/workshops, and more.

Accessing Academica requires a valid WSU Access ID (http://computing.wayne.edu/accessid) (e.g., xy6789) and password. As soon as a student applies for admission or an employee is hired, a unique Access ID is automatically created. The university's Help Desk (https://tech.wayne.edu/helpdesk) services can provide technical assistance if necessary.

Degree Works

Degree Works (http://wayne.edu/degreeworks) is a degree tracking tool that allows you to see your progress toward graduation and help you and your advisor determine which courses you still need to take. Along with your advisor, you can also map out which courses you will take in future semesters, putting you on the right path for graduation.

Drop/Add — Adjusting Your Schedule

Registered students may drop and/or add classes on the date(s) indicated on the Registration Calendar. Note the following requirements:

1. The regulations pertaining to dropping and adding courses are stated as they pertain to regular courses fifteen weeks or more in duration. These regulations are applied proportionately to courses that are offered for less than fifteen weeks. Students can click on the Course Reference Number (CRN) on the class schedule website to view specific deadline dates for each course(s). Students can also contact the Registration Office (registration@wayne.edu) for any questions regarding these regulations.
2. Students who do not officially drop their courses within the first two weeks of classes are financially obligated to pay for the courses even if they have not attended any class sessions.

3. Students who officially drop full term courses before the conclusion of the first two weeks of classes (for the Fall and Winter terms) are entitled to 100% tuition cancellation, and the courses do not appear on the students' academic records.
4. Students are not permitted to add courses after the first week of the term without instructor and departmental permission. Departments are required to enter a late add permit/override for students if exceptions are made to permit adding of classes during the second week.
5. Effective Fall 2018, the withdrawal period starts after the second week of classes, and lasts through the tenth week. The withdrawal will include a notation on the academic record of 'WP' - Passing, 'WF' - Failing, or 'WN' - No Basis for Letter Grade. Students are required to submit their withdrawal through Academica for their instructors' approval. Once logged into Academica, click the Student tab, under Registration from the Student Services menu, choose Withdraw from a Class, follow the prompts on each page. Before a withdrawal request is sent to the instructor, undergraduate and Masters level students will be required to complete a SMART Check. See the Financial Aid website (http://wayne.edu/financial-aid/receiving/withdrawal) for more information.
6. Students are not permitted to withdraw from courses after the end of the tenth week of class for full term classes. The withdrawal deadlines are published in each term's academic and registration calendar. Withdrawal dates for less than full term courses are adjusted proportionally. Late withdrawal requests will not be approved. Medical withdrawal requests have separate deadlines.

Classes for which a grade has been earned cannot be withdrawn.

College of Engineering: Students are not permitted to withdraw from courses after the fifth week of classes without written approval of their advisor. Some departments have more stringent restrictions on withdrawing from courses.

Transcript Request Policy

Official transcripts bear the seal of the University and the signature of the Registrar. They are sent directly to the receiving party. Transcripts are issued free of charge, up to ten copies per year. A fee of $5.00 per transcript is charged for copies in excess of ten. A fee of $20.00 is assessed for each emergency transcript. An emergency transcript is one which is mailed for overnight delivery. The next day service only applies to street addresses (No Post Office Boxes) within North America. Next day service requests must be received by 1:00 p.m.

Students may request transcripts via Academica (http://academica.wayne.edu). There are no on demand transcript requests. Due to the signature requirement for releasing educational records, the University cannot accept telephone requests for transcripts.

Transcripts are not issued to anyone outside the University without the written permission of the student. Requests for official transcripts will not be honored if the student or former student has an outstanding financial obligation to the University.

For students who have been in attendance since the year 2000, transcripts can be sent electronically. A valid email address must be provided.

Release of Student Records

The University recognizes the educational records of students as being privileged and has a policy designed to ensure that this information is not improperly divulged without the consent of the student. The University is subject to the Family Education Rights and Privacy Act (http://reg.wayne.edu/students/privacy.php) (FERPA) and has promulgated regulations pursuant thereto. Copies of the regulations and a list of student records maintained by the University are available for inspection in the Office of the Registrar. The University reserves the right to provide anonymous academic information to other schools and colleges when it is to be used for curriculum evaluation purposes.

Michigan's Freedom of Information Act

The Freedom of Information Act (PA 242) provides that a member of the public, in accordance with certain guidelines, has a right to inspect and receive copies of public records maintained by the University. A public record is broadly defined and includes written documents, pictures, recordings, punch cards, magnetic cards, etc., which are maintained by the University in the course of official responsibilities. However, certain records are exempt from disclosure.

The Media Relations Office, located in 3100 Academic/Administrative Building, is responsible for accepting requests for public records, and the Director of that office is the University officer in charge of providing this service. Under statute, a fee can be charged for records released and is based on the cost of labor involved in the search, examination and duplication of records, as well as the mailing costs. Only the Office of General Counsel may authorize the denial of a FOIA request.

Student Directory Information

Effective Winter Term 2000, and updated Spring/Summer 2017, Wayne State University policy permits the release of certain Student Directory information. The specific items are: name, university-provided email address, major, classification (freshman, sophomore, etc.), participation in official recognized activities, including sports, height and weight of member of athletic teams, degree(s) received from Wayne State University, and honors and or/academic awards received.

Unless a student informs the Office of the Registrar that he or she does not want this information released, it will be available to third parties on request. In addition, the student's name, WSU e-mail address, College/School, and major will be visible in the University's Electronic Directory on the Internet. Students who do not want this information released must formally request withholding by completing the Release of Directory Information form, available from the Office of the Registrar (http://reg.wayne.edu).

WSU OneCard

The WSU OneCard is a multi-purpose identification and debit card all in one. It is a convenient, easy-to-use card designed to provide stu dents with access to a wide variety of campus services including. parking, door access, copying and printing services food and book-store purchases, and more, all without having to use cash. The OneCard is needed to access the fitness center, the complimentary campus shuttle and serves as the Library Card for the WSU Libraries. Students should contact the OneCard Office (http://www.onecard.wayne.edu) for complete details.

Retention and Graduation Data

The following information provided by the National Student Clearinghouse reflects 4-year and 6-year graduation and retention rates of the Fall 2010 cohort. Decisions by students to complete degree programs in more than four years varies from personal to programmatic to economic reasons. Additionally, some students in the 2010 cohort have graduated or will eventually graduate at other institutions through transfer or pre-baccalaureate entry into professional programs.

The Fall 2010 cohort consisting of 2400 students tracked by the Clearinghouse for periods of four years and six years shows:

Description	At the End of 4-years	At the End of 6-years
4-year degree from WSU	13%	39%

4-year degree from other institution	1%	6%
2-year degree from other institution	2%	5%
Certificate from other institution	1%	1%
Retained at Wayne State University	41%	11%
Retained at other 4-year institution	8%	6%
Retained at other 2-year institution	13%	8%
Not retained, not completed	22%	24%

Student Academic Success Services

Ombuds Office

790 Student Center Building; 313-577-3487
http://ombudsman.wayne.edu

The Ombuds Office exists to support students in achieving their academic goals by providing them with the tools to access services and resolve issues that are hampering their academic progress. The Office advises students about University policies and procedures, helps them identify possible avenues and solutions, and directs them to relevant University services.

The Ombuds Office is objective, impartial, and does not advocate a particular point of view. It listens to student-related concerns and exercises independent judgment regarding any action it may take. The Office has no authority to change academic or administrative decisions, but it facilitates communication when suitable. Confidentiality is maintained as appropriate and feasible based on individual student needs and desires.

The Ombudsperson is the Chair of the Tuition and Fees Appeals Board (TFAB). The TFAB is charged by the President to be the final arbiter of appeals for tuition and related fees. Students who have exhausted the appeals process in the Office of the Registrar related to tuition and fees may appeal to the TFAB. Each appeal is reviewed as an individual case, and cancellation of tuition and/or fees is granted only when circumstances warrant. It cannot grant tuition adjustments for classes in which students received earned grades, nor can it grant course withdrawals without tuition cancellation. The TFAB will consider only those appeals that are filed within one calendar year following the last day of the academic term in which the challenged fees were assessed.

University Advising Center

1600 David Adamany Undergraduate Library; 313-577-2680
http://www.advising.wayne.edu

The mission of the University Advising Center is to help all undergraduate students reach their educational goals, with high academic achievement, and to graduate.

The University Advising Center provides academic advising to all undergraduate students with undeclared majors and to preprofessional students in the College of Liberal Arts and Sciences, and the College of Fine, Performing and Communication Arts. The Center is staffed by professional advisors whose major responsibilities include the following:

New Student Orientation

The University Advising Center holds new student orientation (http://bulletins.wayne.edu/undergraduate/general-information/success-programs/%20http://wayne.edu/orientation) sessions prior to the start of each semester for incoming students. All incoming freshman and transfer students are required to attend a new student orientation session.

Exploratory Student Advising

Advisors provide specialized advising support to students entering WSU still deciding on a major/program of study. With their advisor, students will explore self, majors and careers and will have an opportunity to explore majors and careers through exploratory activities.

Pre-Medicine/Pre-Dental/Pre-Veterinary Advising

Students in pre-medical, pre-dental, pre-osteopathic and pre-veterinary medicine are advised on specific curricula, co-curricular activities, preparation for admission exams and procedures for applying to the professional school. Credential file services are available to students and letters of recommendation are sent to professional schools as requested by the student.

Pre-professional Advising

Advisors assist students in planning programs which will fulfill requirements for admission to the various professional programs offered by Wayne State University, including those of the School of Social Work, the College of Nursing, and the Eugene Applebaum College of Pharmacy and Health Sciences.

Academic Deficiency Advising

Students whose grade point averages fall below 2.0 are placed on academic probation and are required to discuss their progress with an academic advisor. Advisors help probationary students consider ways to overcome academic deficiencies. Referrals may be made to other University services where students can find assistance for specific problems or difficulties.

Early Academic Assessment

Academic progress for students enrolled in 0000-3999-level courses is assessed by faculty from the beginning of the third week to the end of the sixth week of classes. If a student's performance is assessed below the C level, the student receives an alert notification referring him/her to appropriate campus resources.

Academic Success Center

1600 David Adamany Undergraduate Library; 313-577-3165
http://www.success.wayne.edu

The mission of the Academic Success Center (ASC) is to ensure that all Wayne State University undergraduate students become self-disciplined, motivated and independent learners. The ASC accomplishes this through instruction and services that support students in the development of skills to promote academic excellence and enhance success.

Study Skills Counseling: Professional learning specialists are available to support students' academic success. Any undergraduate Wayne State student may work with a learning specialist to identify specific study skill difficulties and formulate personalized strategies for success. Each plan identifies the student's strengths, opportunities for development and action steps necessary to help the student become a more effective learner. Programs are designed to improve students' study skills including reading comprehension, memory improvement and test preparation.

Study Skills Workshops: The Academic Success Center offers a series of study skills workshops for all students each semester. Sessions provide strategies and techniques to help students effectively manage their time, prepare for exams, reduce test anxiety, improve memory and concentration, understand the relationships between wellness and academic performance and strengthen other skills. Additionally, workshops may be scheduled for groups, student organizations and academic departments to address specific needs.

Tutoring: The Academic Success Center offers tutoring by appointment for a variety of undergraduate courses. In addition to subject material, tutoring sessions address study skill areas such as note-taking and reading comprehension when necessary. All tutors have received faculty recommendation and maintain at least a 3.2 g.p.a.

Supplemental Instruction (SI) supports many 1000- and 2000-level courses by offering collaborative learning sessions facilitated by an SI leader. Sessions are designed to help students understand the course's key concepts, organize the material and develop strategies to effectively prepare for exams. Research suggests that students who consistently participate in SI typically earn a half to a full letter grade better than students who do not take part in SI. All SI leaders have received faculty recommendation, maintain at least a 3.3 g.p.a. and are required to attend the lecture.

First-Year Success Seminar (FYS 1010): This one-credit course supports first-year students' academic and personal development to promote success at Wayne State University and establish learning as a lifelong experience. Coursework and discussions assist students in understanding themselves as learners, setting goals and strengthening time management and study skills while developing a greater awareness of the factors that influence success and the habits that can support success.

Counseling and Psychological Services (CAPS)

552 Student Center Building; 313-577-3398
http://caps.wayne.edu

Counseling and Psychological Services (CAPS) enhances students' development and academic success by promoting an open, problem-solving approach to personal challenges and working collaboratively on building appropriate skills, attitudes, and actions.

Service hours: Monday - Friday 8:30 am to 5:00 pm. Registered WSU students may drop-in or call for an evaluation with a CAPS counselor Monday through Friday from 9:00 am to 4:00 pm.

Eligibility: All currently enrolled students are eligible for counseling evaluation to assess whether their needs can be addressed effectively via short-term counseling at CAPS or require more specialized or longer-term counseling at another facility. Faculty, staff, alumni, children, or spouses are not eligible.

Crisis Services: In the case of a non-life-threatening crisis, students, faculty, or staff can contact CAPS and indicate that a student needs immediate assistance. If assistance is needed during evening or weekend hours, contact the Wayne State University Police Department at 313-577-2222 or call the Wayne County crisis hotline at 313-224-7000. In the event of a life-threatening emergency at any time, contact the Wayne State Police Department.

Career Services

1001 Faculty/Administration Building; 313-577-3390
http://www.careerservices.wayne.edu

Career Services provides support to students and alumni in defining career and employment goals and assists them in their search for employment opportunities. In addition to the following services, Career Services offers topical workshops, career events, and group and individual career/employment counseling. Career Services welcomes the opportunity to discuss customized services to meet individual needs.

Career Development: The main focus of this service is to help students explore career options, clarify their career goals, and link those goals to appropriate academic paths. Individual and group services are available.

Cooperative Education, Internships, and Summer Employment: Comprehensive paid professional, career- and non-career related work experiences are available, including a wide variety of part- and full-time experiential learning situations. Orientation workshops are offered on an ongoing basis.

On-campus Student Employment: Students may work on-campus up to twenty hours per week as a Student Assistant or College Work-Study employee. Job openings may be viewed in-house or online via our open posting system.

Professional Employment: Graduating students and alumni may increase professional full-time employment opportunities through on-campus interviews, resume referral, career fairs, in-house and on-line job postings, along with a myriad of career-related support services.

Testing, Evaluation, and Research Services

686 Student Center; 313-577-3400; Fax: 313-577-0617
http://www.testing.wayne.edu/

Testing

We provide:

- A secure, standardized, testing environment where students can demonstrate their academic skills for placement, course credit, or high stakes decisions.
- The opportunity for students to earn course credit in courses accepted by the transfer credit office through the College Level Examination Program (CLEP).
- Placement testing for students interested in meeting general education and other requirements targeted toward their personal skill level in Biology, Chemistry, English Composition and Mathematics.
- Outside exams: Graduate Record Exam (GRE), Testing for the Law School Admission Council (LSAC), Medical College Admission Test (MCAT), Miller Analogies Test (MAT), Test of English as a Foreign Language (TOEFL), Written and Oral exams for the American Council on the Teaching of Foreign Languages (ACTFL), and written exams for doctoral students in the College of Education.

Evaluation

We collect student opinions about faculty teaching through Student Evaluation of Teaching (SET). We share SET reports with students, administrators and faculty members toward the goal of improving quality of teaching at the University.

We survey students and faculty regarding the quality of their education through

1. the Cooperative Institutional Research Program (CIRP) Freshman Survey,
2. National Survey of Student Engagement (NSSE) and
3. Faculty Survey of Student Engagement (FSSE).

Research Services

We offer consulting on best practice in testing for faculty and academic staff. We offer machine scoring of exams, including tabulation of test scores and statistical output to help faculty improve their tests.

Student Disability Services (SDS)

1600 David Adamany Undergraduate Library; 313-577-1851;
313-202-4216 (Videophone)
http://studentdisability.wayne.edu

Student Disability Services is the office at Wayne State University that determines eligibility and implements academic accommodations, services and support for students with disabilities pursuant to the Americans with Disabilities Act (ADA), the ADA Amendments Act of 2008, and Section 504 of the Vocational Rehabilitation Act of 1973. SDS is committed to teaching students to advocate for themselves in order to fulfill their academic goals. SDS also provides training and outreach throughout the university to ensure equal access to all university programs.

Disability Determination: In order to register for SDS services, students must self-identify by providing documentation of their disability. Students will meet with disability specialists to discuss appropriate and reasonable accommodations. Once accommodations are determined, students are guided through the process of providing faculty with their accommodation letters and securing appropriate services. Students receiving accommodations are held to the same academic standards as all other WSU students and are responsible for requesting services and following procedures in a timely manner.

Academic Accommodations: Accommodations and services are individualized and based upon the student's documentation. It is for this reason that students should ensure that they have sufficient documentation that supports the need for appropriate and reasonable accommodations. Some of the accommodations and services provided by SDS might include alternative testing, interpreter and CART reporting services, alternative text format, note-taking assistance, furniture requests, use of assistive technology, and use of SDS exam/study rooms. Students registered with SDS are also eligible for pre-priority registration for classes. Through the SDS liaison program with University departments and programs, SDS ensures that members of the University community understand the types of support offered to enhance collaboration in providing accommodations.

Assistive Technology: The SDS staff includes an assistive technician who secures alternative text formats for students and teaches students how to use the various assistive technologies. SDS exam/study rooms house CCTV magnification equipment, computers with software such as Zoomtext, JAWS, Kurzweil Educational Systems, Dragon Naturally Speaking and Inspiration. Students are also informed about free downloadable software programs for reading and recording.

Community Resources: SDS collaborates with various community agencies that assist students with disabilities at the university. Students are connected to agencies such as Michigan Rehabilitation Services, the Bureau of Services for Blind Persons, Learning and Disability Network/ Michigan.

Academic Pathways for Excellence (APEX)

5700 Cass Ave., Suite 2800; 313-577-4695
http://www.apex.wayne.edu

APEX Scholars is an alternative admission program designed to assist students with admission to success at, and graduation from Wayne State University. The program is based on the philosophy that students who are interested, committed, and willing to invest the time, can succeed academically when provided with appropriate support services.

The mission of APEX Scholars is to provide an academic bridge to the successful completion of undergraduate studies at Wayne State University. In this quest, the program will strengthen the cognitive abilities of students; encourage a thirst for knowledge; model and demand a disciplined approach to learning; and enhance student achievement by assuring access to a committed staff that provides effective supportive services and leads to a structured path of academic success.

Admission Requirements

Evaluation of applicants: The admissions policy is based on holistic considerations of each student's potential to succeed at a research University. Holistic evaluation means that each applicant will be evaluated on the basis of full academic records, types of classes taken, grade trends, and personal history. Depending on the individual situation, applicants will also have an opportunity to submit optional essays and engage in personal interviews. The program is committed to the high academic standards that best prepare students for success following graduation.

Application: All students must apply through the regular application process for Wayne State University by submitting an online application (http://www.wayne.edu/admissions). Applicants who might benefit from the APEX Scholars program will be invited for campus interview to determine whether the APEX Scholars program is a good fit for them.

In consideration for admission into APEX Scholars and in order to remain in good academic standing, students admitted into one of the bridge programs (see below) will need to successfully complete all of the bridge program requirements before matriculation into APEX Scholars.

Summer Bridge is an eight-week academic program designed to prepare students for Wayne State University and to support the transition into college. Students must successfully complete the academic requirements of the APEX Summer Bridge in order to be admitted to APEX.

Fall Bridge is a sixteen-week rigorous program with the same support as the summer bridge program.

APEX Scholars: After successful completion of one of the Bridge programs offered student can matriculate to APEX Scholars. As such students will experience continued academic strengthening through enhanced counseling; targeted academic support services, and assistance with course selection. Students must also maintain a C average through three semesters of the program (thirty-six credits). After completion of the thirty-six credits, student(s) will transition into general status.

Academic Pathway Excellence Courses

Code	Title	Credits
APX 0500	Foundations in Writing	3
APX 0510	Practical Mathematics	3
APX 0600	Learning Community Seminar	0
APX 1000	Learning Strategies for College Success	2
APX 1010	Seminar in Reading College Texts	2

Federal TRIO Office

5700 Cass Ave, Suite 1330; 313-577-5050
http://www.federaltrio.wayne.edu

The Office of Federal TRIO provides academic assistance and support services to promising youth and adults who have been historically under-represented in higher education due to their economic condition, first generation status, or educational preparation. This office provides academic support services, instruction, and college preparation workshops for pre-college students in the metropolitan Detroit area and students enrolled at WSU. Federal TRIO serves an extremely diverse student population that ranges from twelve to nineteen years of age, veterans of the armed services, and other adult learners. Federal TRIO Programs serve over 6,000 students residing in Wayne, Oakland, and Macomb Counties or enrolled at Wayne State University.

Federal TRIO is comprised of six state and federally funded programs designed to increase the post-secondary admission rates of the diverse populations it serves, and to increase the graduation rates of these students in the University. Through continuous improvement of services, the department aims to maximize the academic achievement of its participants and to promote equity and excellence at Wayne State University.

The Educational Opportunity Center (EOC)

5700 Cass Avenue, Suite 2701, Academic/Administrative Bldg., 313-577-5050, provides a comprehensive career counseling program that offers free academic, vocational career and financial aid information to eligible applicants nineteen years of age and older, who wish to pursue a postsecondary education.

Michigan Gaining Early Awareness and Readiness for Undergraduate Programs (MI-GEARUP)

5700 Cass Ave., Suite 1330, Academic/Administrative Bldg., 313-577-5050, offers life skills programs, career counseling services and college visitations designed to educate parents and encourage seventh- through twelfth-grade students in targeted schools to complete high school and enroll in higher education.

Upward Bound Program

5425 Woodward, 313-577-1943, provides services for low income and first generation college students in grades nine to twelve with the potential and motivation to be successful in higher education. The students must attend target area high schools. Upward Bound provides students with a head start on improving the skills required to succeed in college, through academic instruction, tutoring, academic and career guidance, personal counseling, and a six week summer residential program.

Veterans' Educational Opportunity Program (VEOP)

5425 Woodward, 313-577-9710, provides a program of instruction, academic and career guidance, personal counseling, tutoring, and post-secondary placement to veterans who have served in the U.S. Armed Forces from December 31, 1955 to present.

McNair Scholars Post-baccalaureate Achievement Program

5700 Cass Avenue, Suite 1330; 313-577-5050, provides faculty mentors, student-faculty research projects, GRE preparation services, stipend support and travel funds to present research for WSU junior and senior students. The goal of the McNair Scholars Program is to prepare low-income, first generation and underrepresented students to successfully complete doctoral studies. in the areas of Science, technology, engineering and mathematics.

Office of Military and Veterans Academic Excellence (OMVAE)

Suite 687 Student Center Building;
313-577-9180; Fax: 313-577-5020
http://www.omvae.wayne.edu

This office assists veterans, active-duty service members, reservists, National Guard and eligible dependents/survivors in utilizing educational benefits. Specifically, students are aided in applying for Federal benefits outlined under Title 38, and Title 10, U.S.C., including: the Montgomery G.I. Bill (chapter 30), Vocational Rehabilitation (chapter 31), Post 9/11 G.I. Bill (Chapter 33), Reserve Educational Assistance Program, the Reserve G.I. Bill (chapter 1606), REAP (chapter 1607), and the Survivors'/ Dependents' Educational Assistance (chapter 35). All eligible students must officially request (http://omvae.wayne.edu/va-certification.php) to use their educational benefits each semester.

Non-Degree Status: Students must be in a degree program to receive benefits. Those not currently admitted to a degree program and enrolled in classes must verify to the OMVAE via an academic advisor (http://advising.wayne.edu/makeappt.php) the reason for enrollment (i.e., completing foundation courses for a master's-level program).

Transfer Credits: Wayne State University will give four transfer credits for veterans, reservists, National Guard, and active-duty service members for service in the U.S. military. The University will require military discharge document DD-Form 214 (http://www.dd214.us).

Wayne State University will accept up to twelve transfer credits from veterans upon receiving their Joint Service Transcript of military training. These credits are to be evaluated according to the 'Guide to the Evaluation of Educational Experiences in the Armed Services,' published by the American Council on Education.

This policy shall be in effect for all veterans, reservists, National Guard, and active-duty service members currently enrolled Fall 2005 and thereafter.

Late Tuition and Late Registration Fee Waiver: Late fees, Partial Payment fees and Late Registration fees can be waived for all students currently receiving VA Educational Benefits. Contact OMVAE for assistance.

Licensing/Certification Reimbursement: In most instances, students receiving VA educational benefits (http://www.gibill.va.gov) are eligible for reimbursement (https://www.benefits.va.gov/gibill/licensing_certification.asp) for licensing test fees.

Tutorial Assistance is also available (https://www.benefits.va.gov/gibill/tutorial_assistance.asp) as part of all benefit packages as noted above. Eligible recipients may receive $100.00 per month, up to twelve months to help defray tutoring costs. Contact the OMVAE for further details. No charge to benefit entitlement is incurred for the first six months received of Tutorial Assistance.

I**n-State Tuition Waiver:** Individuals on active duty in the U.S. Military who are stationed in Michigan and their dependents are eligible for Michigan in-state tuition. Stationing orders and proof of relationship (for dependents) must be provided with the application.

Students utilizing Chapter 31 or Chapter 33 G.I. Bill™ benefits will be granted a deferment of tuition and fees for the current enrollment period upon submission of a corresponding Certificate of Eligibility (or suitable documentation which demonstrates benefit eligibility). The deferment will be placed proportionally based on the student's percentage of eligibility.

Veterans and their dependents are eligible for Michigan in-state tuition. The term "veteran" means a citizen of the United States or a resident alien whose most recent separation from any branch of the armed forces of the United States was under conditions other than dishonorable after

having served on active duty for 90 consecutive days or more by reason of disability incurred while serving on active duty.

Individuals who are members of the National Guard of any state, or who were separated from the National Guard of any state under conditions other than dishonorable, and their dependents are eligible for Michigan in-state tuition.

Without regard to the foregoing, any individual using educational assistance under either Chapter 30 (Montgomery GI Bill® – Active Duty Program), Chapter 33 (Post-9/11 GI Bill®), of title 38, United States Code, and/or the Marine Gunnery Sergeant John David Fry Scholarship (38 U.S.C. § 3311 (b)(9) who lives in the State of Michigan while attending Wayne State University (regardless of his/her formal state of residence) is eligible for Michigan in-state tuition.

VA Work-study Program: The VA work-study (https://www.benefits.va.gov/gibill/workstudy.asp) allowance is available to all students eligible for VA Educational Benefits. Those eligible who are at least a three-quarter-time student in a college degree program, or a vocational or professional program, can 'earn while they learn.' Pay for VA Work-study is the equal to the Federal minimum wage or your state minimum wage, whichever is greater.

Services performed under a VA work-study program must be related to VA work. Examples of acceptable work are:

- Processing VA paperwork at any university or college having a VA Office (e.g., you may be enrolled at WSU but work at Oakland or Macomb Community College VA Offices)
- Outreach services under VA supervision
- Work at VA medical facilities or National Cemetery System offices
- Work with the Veterans counselor at any of the MESC offices
- Work in the Education or Transition offices at local base
- Work at Department of Defense facilities related to education benefits under the GI Bill.

National Guard Students: Please note that Wayne State does not currently participate in the Guard's Tuition Grant Program. However, if your branch provides Tuition Assistance and/or Tuition Reimbursement the OMVAE will provide assistance as necessary with regard to grade and tuition certifications to your unit.

Reserve Officer Training Corps (ROTC): Wayne State University offers an Army ROTC (http://omvae.wayne.edu/rotc) program. Students interested in joining the Army ROTC program at Wayne State University should contact M.S.G. Nicholas Lachance 734-647-3034.

Recalled To Active Duty (Reservists / National Guard): Students serving in the Selected Reserves or National Guard who are called up to Active Duty during a semester may request full reimbursement of tuition and fees. Students must file an *Exception to Enrollment Policy* form and submit a copy of their orders to OMVAE. Students called up active near the end of a semester are encouraged to consider requesting Incomplete grades for coursework.

Early-Out Requests: Potential Students on Active Duty requesting a verification of enrollment to be sent to their Commands must be admitted to Wayne State University and have registered for classes. Please contact the Graduate Admissions Office and the Registration Office for assistance. Once these conditions are met, the VA Certifying Official can complete an enrollment verification for active duty members seeking an 'early out' from military service. Hard copy proof of student's admittance and registration for classes is NOT required for the VA Certifying Official to complete the enrollment verification.

Tuition and Fees

Listed below are the Tuition and Fees, as adopted by the Board of Governors, at the time of preparation of this Bulletin. Please see the Graduate Bulletin (http://bulletins.wayne.edu/graduate) for rates in Graduate and Professional programs. Current tuition and fee information is also available on the Office of the Registrar's website (https://wayne.edu/registrar/tuition). **Tuition and Fees are subject to change without notice by action of the Board of Governors.**

Undergraduate Tuition and Fees

Education (except for Division of Kinesiology), Liberal Arts and Sciences (non-science), Pharmacy, and Social Work

Resident Lower Division	$397.05 per credit
Resident Upper Division	$471.19 per credit
Non-Resident Lower Division	$909.40 per credit
Non-Resident Upper Division	$1,083.52 per credit

Business, Fine, Performing and Communication Arts, Education (Division of Kinesiology), Liberal Arts and Sciences (Public Health majors)

Resident Lower Division	$424.44 per credit
Resident Upper Division	$513.68 per credit
Non-Resident Lower Division	$936.79 per credit
Non-Resident Upper Division	$1,126.00 per credit

Engineering and Liberal Arts and Sciences (science majors)

Resident Lower Division	$403.97 per credit
Resident Upper Division	$478.16 per credit
Non-Resident Lower Division	$916.31 per credit
Non-Resident Upper Division	$1,090.48 per credit

Nursing

Resident Lower Division	$424.44 per credit
Resident Upper Division	$617.81 per credit
Non-Resident Lower Division	$936.79 per credit
Non-Resident Upper Division	$1,230.13 per credit

Junior Year in Munich - Per Semester Rate

WSU Students	$6,500.00
Non-WSU Students	$14,000.00

Student Fees

Registration Fee

There is a $235.16 registration fee for undergraduates. The registration fee is refundable according to the same principles as tuition and other fees.

Late Registration Fee

Any student registering after the Priority registration date (as indicated in the Schedule of Classes website: http://www.classschedule.wayne.edu for the applicable term) must pay either a non-refundable $35.00 Late Registration Fee if registration is completed before the start of classes, or $70.00 if completed after the start of classes. Late Registration Fees will be waived for new students in their first term of WSU enrollment.

Student Services Fee

Undergraduate students are assessed a $37.82 fee per credit. The Student Services Fee is used primarily to maintain, upgrade and replace student computing and technology resources on campus. A small portion is also used to fund student activities on campus, and to enhance programs directed toward improving on-campus activities, including athletics.

Student Support Fees

Engineering Support Fee - Lower Div. Full-Time	$100.00
Engineering Support Fee - Lower Div. Part-Time	$50.00
Engineering Support Fee - Upper Div. Full-Time	$350.00
Engineering Support Fee - Upper Div. Part-Time	$175.00
Sciences Support Fee - Lower Div. Full-Time*	$50.00
Sciences Support Fee - Lower Div. Part-Time*	$25.00
Sciences Support Fee - Upper Div. Full-Time*	$100.00
Sciences Support Fee - Upper Div. Part-Time*	$50.00
Honors Support Fee - Full-Time	$50.00
Honors Support Fee - Part-Time	$25.00

* The Sciences Support Fee is charged to these majors in the College of Liberal Arts and Sciences: Actuarial Mathematics, Astronomy, Biochemistry & Chemical Biology, Biological Sciences, Biomedical Physics, Chemistry, Computer Science, Communication Sciences & Disorders, Dietetics, Environmental Science, Geology, Information System Technology, Mathematics, Neurosciences, Nutrition & Food Science, Physics, Psychology, Public Health, and Statistics (including those with departmental honors).

Matriculation Fee

New undergraduate freshmen and transfers will pay a $250.00 Matriculation Fee.

Student Exchange and Visitors Information Service (SEVIS) Fee

International students and scholars/visitors who must be reported through the federal SEVIS system shall be charged a $50.00 non-refundable fee for each term of enrollment.

Course Material Fees

These fees are required of some classes in which a relatively large portion of instructional costs is due to the necessary use of consumable resources. The fee is automatically assessed; a fee card is not required. The fee may be canceled when a course is officially dropped within the tuition and fee cancellation period specified in each semester's term calendar. For additional information, contact the Department offering the course. Courses listed as having special fees require payment of the fee in addition to the tuition.

Music Fees

Students registering for music courses taken as private lessons pay an additional fee. In the event of withdrawal, the student will receive a refund of the difference between the fee assessed and the cost to the University of any lessons that were provided.

Examination Fee for Credit by Examination

The fee for an examination taken to establish credit by examination is $10.00 per credit. Such examinations will be approved under provisions established by the Schools and Colleges. Credit allowed on the basis of transcript entries from another institution is not applicable to this provision.

Graduation/Certificate Fee

There shall be a $40.00 fee for students who apply for a degree or certificate/diploma. Graduate applicants for graduate degrees will not be charged the Graduation Fee as they pay a higher Registration Fee. Undergraduates who are new to the university in fall 2014 or after will pay a Matriculation Fee in lieu of a Graduation Fee and in lieu of an Orientation Fee.

Payment of Tuition and Fees

Student Financial Obligation for Payment of Tuition and Fees

When registering for courses each semester students are required to electronically sign a "Financial Responsibility Agreement." This agreement represents a binding contract obligating the student to pay all tuition and fees assessed including any collection, attorney, and/or litigation costs associated with collecting those fees, in the event of non-payment.

Payment Due Dates

- FALL TERM: Payment is due August 15.
- WINTER TERM: Payment is due December 15.
- SPRING/SUMMER TERM: Payment is due April 15.

Students registering on or after these payment dates are expected to pay the balance in full at the time of registration.

Payments not received by the due date(s) are subject to late payment fees. Failure to make payment because a statement of account or invoice is not received does not exempt students from late payment fees. Please refer to the published tuition due dates and the complete eBill Posting Schedule and Payment Due Dates on the Office of University Bursar's website (http://fisops.wayne.edu/bursar/e-bills/eBill-Schedule.php).

Payment Options

Wayne State University provides various options for paying tuition and fees:

1. in person at the Cashier Office, Room 217; Welcome Center, 42 W. Warren; or
2. by mail to Wayne State University, P.O. Box 02788, Detroit, MI 48202; or
3. by telephone - 1-866-520-7786; or
4. online through Academica (https://academica.aws.wayne.edu).

Checks, Money Orders, and Cash

Wayne State University accepts personal and certified checks, money orders, and cash as payment for tuition and fees. Payments can be mailed. However, please do not mail cash. Checks or money orders should be made payable to Wayne State University. The student's name and University AccessID number should be written on the check or money order.

Fee-free ACH Checks

Wayne State University also accepts fee-free automated clearing house (ACH) check payments using WSU Pipeline. Checks (paper or ACH) returned by the bank are subject to returned check fees.

Credit Card Payments

Wayne State University does not accept credit card payments directly. Credit card payments can be applied to a student's University account by a third party processor, CASHNet SmartPay. CASH-Net SmartPay will assess a convenience fee (2.9%) on all credit card payments. To make a credit card payment log into Academica and select credit card payment which will automatically invoke the CASH-Net SmartPay process.

Installment Payment Plans (IPP)

Wayne State University is able to offer interest free installment payment plans for students on a semester by semester basis through the following company:

Tuition Management Systems (TMS) (https://wayne.edu/bursar/payment/installment-plans)
1-800-722-4867

There is a nominal fee for enrolling. Contact the company for terms and conditions.

Sponsored Tuition Program

Certain employers participate in direct tuition billing arrangements as part of their employee benefits programs. Students with questions about the University's procedures or required documentation for a specific plan should contact the Student Accounts Receivable Office at 313-577-6623.

Delinquent Prior Term Balances

Personal checks are not accepted as payment for delinquent balances. Payment must be made by cash, certified check, money order or credit card.

IMPORTANT: Students who do not drop their courses during the tuition cancellation period for the term are financially obligated to pay for the courses even if they have not attended any class sessions. Specific dates are available in the Academic Calendar (p. 10).

Students with questions regarding any information presented in Payment of Tuition and Fees section above should contact the Office of the University Bursar at 313-577-3653.

Disclosure Statement

The University reserves the right to update and/or change this information at anytime.

Late Registration

Registration is not permitted beyond the prescribed registration date unless extenuating circumstances beyond the control of the student warrant an exception to University Policy as determined by the University Registrar. In such cases, full tuition, Registration Fee and Late Registration Fee is due on the day of registration.

Short Term Courses

Payment of the full tuition and the non-refundable Registration Fee is required on the date of registration or no later than the first class meeting date. Late Payment Fees are assessed to any student who has not paid his/her tuition and fee assessment by the eBill due date.

Tuition Cancellation

Tuition may be canceled in accordance with the following schedule when students officially drop classes using the Academica on-line portal, by submitting a properly completed Register/Drop/Add form, or by sending a certified letter to the Office of the Registrar. A certified letter requesting to drop classes sent through the U.S. Postal Service shall be considered effective on the date it is received in the Office of the Registrar.

Students who officially drop classes before the conclusion of the first two weeks of classes (for the Fall and Winter full-term courses) are entitled to 100% tuition cancellation, and the dropped classes do not appear on the academic record.

Students are contractually liable for tuition unless they take official action during the tuition cancellation period to drop classes.

Students who officially withdraw from fifteen-week classes after the second week of classes (for the Fall and Winter terms) are not entitled to any tuition cancellation.

The tuition cancellation schedule shown below applies to courses that start in accordance with the Official University Academic Calendar. The tuition cancellation schedule for courses with specially approved starting dates is dependent upon the starting date of the course. Questions about the tuition cancellation schedule should be referred to the University Registrar.

Classes meeting fewer than four weeks: Students who officially drop scheduled classes before the first day of classes are entitled to a 100% tuition cancellation and 0% thereafter.

Classes meeting four to eight weeks: Students who officially drop scheduled classes before the second week of classes are entitled to a 100% tuition cancellation and 0% thereafter.

Classes meeting nine to fifteen weeks: Students who officially drop scheduled classes before the third week of classes are entitled to a 100% tuition cancellation and 0% thereafter.

Classes meeting sixteen to twenty-seven weeks: Students who officially drop scheduled classes before the fourth week of classes are entitled to a 100% tuition cancellation and 0% thereafter.

Classes meeting twenty-eight or more weeks: Students who officially drop scheduled classes before the seventh week of classes are entitled to a 100% tuition cancellation and 0% thereafter.

Special Adjustments

The University Registrar is authorized to make adjustments in the application of the policies stated in this section when unusual circumstances warrant. Examples of circumstances which may warrant special consideration include: serious illness or death of the student or someone closely related, or mis-advisement by a University representative. Tuition cannot be canceled for reasons such as changes in work schedule or other employment demands, claims of lack of information, insufficient funds, unawareness of the difference between tuition and student financial aid, undocumented reasons, or for reasons that are within the control of the student. Non-attendance, except for situations falling under the University non-attendance policy (below), is not in and of itself a reason for tuition and fee cancellation. Students (or an authorized representative in the case of death or serious illness) must submit their applications and supporting documentation to the Office of the Registrar. A medical withdrawal is a complete withdrawal from all courses, supported by medical reports from the attending physician. Requests for exceptions to tuition and fee policies must be submitted within approximately two months of the end of the term, as follows:

- Fall Term - March 1
- Winter Term - July 1
- Spring/Summer Term - November 1

Deadlines falling on weekends will be extended to the next business day.

University Non-Attendance Policy

The University Non-Attendance Policy will allow 100% tuition cancellation only for students in their first term of attendance at Wayne State University. Instructors for all courses must verify the student did not attend classes after the tuition cancellation deadline. This policy is designed to provide relief to those students who in their first semester at Wayne State may not be familiar with the University's Tuition Cancellation Policy.

Where the student has otherwise proceeded properly, (s)he may be granted full cancellation of tuition and fees assessed for the class(es) involved:

- If the University cancels the class(es), or
- If the University re-schedules the class(es) after the student has registered and (s)he is now unable to attend, or
- If an authorized University representative has taken action which causes financial loss related to tuition, e.g., authorizing a student's schedule when the student does not have the necessary prerequisite(s).

Appeal Procedures: If a student (or an authorized representative in the case of death or serious illness) is dissatisfied with the Registrar's decision with reference to this policy, the student (or an authorized representative) may appeal to the Tuition and Fee Appeals Board through the University Ombudsperson.

University policy allows for a Request for Medical Withdrawal. A medical withdrawal is a complete withdrawal from all courses. For approved requests, the University Medical Withdrawal Policy will grant 100% tuition and fee cancellation if a student stops attending ALL classes before the end of the 10th week of the scheduled class meeting period in a full fall/winter term. Medical documentation will need to confirm that medical attention was provided during this time period. For medical withdrawals occurring during the 11th or 12th week, tuition cancellation will be granted at the rate of 60%. There is no tuition cancellation after the twelfth week of the term. These periods are adjusted proportionally for courses that do not run the full term. While a request is under review tuition payments should be made as scheduled.

Holds on Records

Initial eligibility to register for classes each semester is based on a student's admission status with the University. All students must be authorized by the University in order to enroll in classes. 'Holds' may be placed on student records, and registration denied to a student, for academic reasons (e.g., probation or dismissal), a disciplinary problem, money owed to the University, failure to return library books and/or other supplies and equipment, and/or non-compliance with program, Departmental, School/College, or University regulations.

A 'Hold' will be placed on the records of any student who has past due indebtedness to the University. While the hold is in effect, registration for a subsequent term will not be permitted, official transcript of academic work taken at the University will not be furnished, nor will a diploma be issued.

Residency Regulations and Review Procedures: In-State Tuition

The following regulations and review procedures are established by Wayne State University for tuition and fee purposes. Wayne State University recognizes three means by which an individual may establish eligibility for in-state tuition and fees:

- By establishing residence by presence in the State of Michigan;
- By establishing attendance at Michigan high schools; or
- By establishing military service status.

Establishing Residence by Presence in Michigan

Generally, in order to establish residence by presence in the State of Michigan, an individual must document at least six months of continuous physical presence in the State. The six months continuous residence must be completed before the first day of classes for the semester in which in-state tuition is sought. Even if someone is present in Michigan for six months, the person may not qualify for in-state tuition; it depends on whether the person is in Michigan for educational purposes or some other reason. Under limited circumstances which clearly demonstrate that a student's presence in the State of Michigan is not primarily for educational purposes, the student may be eligible for in-state tuition prior to the passage of the six-month presence requirement.

Temporary Absences

In general, a person's residence is the place where he or she actually lives with the intention of making it the person's permanent home and to which he or she intends to return from temporary absences. A person may be temporarily absent from Michigan without affecting his or her previously established residence. Full-time attendance at a school outside Michigan or enlistment in a military service are examples of temporary absences. Other types of absences for more than six months will be presumed not to be temporary.

Presence for Educational Purposes

Coming to Michigan from another state or country in order to attend Wayne State University or another school does not establish residence. A non-resident at the time of his or her enrollment remains a non-resident throughout his or her presence as a student, except where it can be established that presence in the State of Michigan is primarily for purposes that are not educational, with enrollment only incidental to the primary purpose of being in Michigan. If a student enrolls in undergraduate school for more than eight credits, or in graduate school for more than six credits, or in Law School for more than ten credits in any one full length semester, within six months after arrival in Michigan, Wayne State University normally presumes that the student is in Michigan for the purpose of attending school. Applicants must demonstrate that their presence in Michigan is primarily for purposes that are not related to enrollment.

Factors Considered in a Residence Classification

The following circumstances, although not conclusive, support a claim for in-state tuition on the basis of residence.

The student is employed in Michigan on a permanent, full-time basis or has accepted an offer of permanent employment in Michigan.

The student's parents (or in the case of divorce, one parent) are legal residents of Michigan as shown by their permanent employment in Michigan and/or their establishment of a primary household in Michigan, and the applicant previously was a resident of Michigan and has maintained significant connections to Michigan.

The student's spouse or partner is employed in Michigan on a permanent, full-time basis and the applicant moved to Michigan as a consequence of that employment; and

The student has severed ties to his or her previous state of residence so that he or she no longer can reasonably be considered to be a resident of another state.

Factors Typically Not Supporting Residence Classification

The following circumstances, standing alone, do not typically support residence, inasmuch as they may be common to a temporary or short-term presence in Michigan:

1. Employment by the University as a fellow, scholar, assistant, or in any position normally filled by students;
2. A statement of intention to establish residence in this state;
3. Payment of local and state taxes; or
4. Automobile registration, driver's license, continued presence in Michigan during vacation periods.

Although insufficient to establish residence, certain of these factors may be taken into consideration in determining whether a student has severed ties to the student's previous state of residence.

For purposes of these regulations, the age of majority is eighteen years. Except as provided in paragraph “g” of this section, a minor does not have the capacity to establish his or her own legal residence. Normally, the legal residence of a minor follows:

1. That of the parents or surviving parent; or
2. That of the parent to whom custody of the minor has been awarded by a divorce or other judicial decree; or
3. That of the parent with whom the minor in fact makes his or her home, if there has been a separation without a judicial award of custody; or
4. That of an adoptive parent, where there has been a legal adoption, even though the natural parents or parent may be living; or
5. That of a "natural" guardian, such as grandparent with whom the minor in fact makes his or her home, where the minor has permanently left his or her parental home and reasonable expectation of substantial financial support from the parents has been dissolved. A natural guardian is someone who, although not legally the minor's parent or guardian, performs the same sort of parental duties.
6. If a Michigan resident parent or guardian of a minor moves his or her residence to another state, the minor shall remain eligible for resident tuition status as long as he or she continues to attend school regularly in this state.
7. A minor who has permanently left his or her parental home, and who has no reasonable expectation of significant financial support from his or her parents or legal guardian, etc., may qualify for resident status even if under eighteen years of age.

Non-U.S. Citizen

A non-U.S. citizen may apply for resident status in the same manner as a citizen, if he or she is in the United States for other than a temporary educational purpose. In order to demonstrate this, applicants must provide evidence from the U.S. Department of Citizenship and Immigration Services of one of the following:

1. A U.S. permanent resident alien with a green card.
2. An applicant for U.S. permanent residence whose Petition for Alien Relative, or Employment-based Immigration Petition for Alien Worker has been approved, or who has been issued an Employment Authorization document pending adjustment of status. These individuals will have documentation of this status such as an I-130 (Petition for Alien Relative) or I-140 (Immigration Petition for Alien Working) Approval Notice, or an I-151 or I-551 Notice of Action indicating approval of petition to become an immigrant.
3. An alien with a current valid visa type issued for purposes of working in the United States, and currently working in the State of Michigan. These currently include visa types of A, E, G, H, I, L, R, and TN.
4. An Alien granted asylum or refugee status.

Attendance of Michigan High Schools

An individual may be eligible for in-state tuition on the basis of high school attendance if he or she demonstrates that he or she:

1. Attended an accredited Michigan high school for at least three years and thereafter graduated from an accredited Michigan high school or obtained his or her GED in Michigan; and
2. Enrolls at Wayne State University within twenty-eight months of graduating from high school or obtaining a GED.

An individual does not need to be a legal resident of Michigan or a citizen of the United States to qualify for in-state tuition on the basis of attendance at Michigan schools.

Military Service

Individuals on active duty in the U.S. Military who are stationed in Michigan and their dependents are eligible for Michigan in-state tuition. Stationing orders and proof of relationship (for dependents) must be provided with the application.

Veterans and their dependents are eligible for Michigan in-state tuition. The term "veteran" means a citizen of the United States or a resident alien whose most recent separation from any branch of the armed forces of the United States was under conditions other than dishonorable after having served on active duty for 90 consecutive days or more or by reason of disability incurred while serving on active duty.

Individuals who are members of the National Guard of any state, or who were separated from the National Guard of any state under conditions other than dishonorable, and their dependents are eligible for Michigan in-state tuition.

Without regard to the foregoing, any individual using educational assistance under either Chapter 30 (Montgomery GI Bill® – Active Duty Program), Chapter 33 (Post-9/11 GI Bill®), of title 38, United States Code, and/or the Marine Gunnery Sergeant John David Fry Scholarship (38 U.S.C. § 3311(b)(9)) who lives in the State of Michigan while attending Wayne State University (regardless of his/her formal state of residence) is eligible for Michigan in-state tuition.

Good Neighbor Policy (Graduate Students Only)

Residents of Fulton, Lucas, Ottawa, and Williams counties in Ohio, or residents of Ontario, Canada, who are enrolled in eligible graduate programs will pay in-state tuition. This tuition benefit does not apply to certain academic programs, including School of Medicine MD program and the Doctor of Pharmacy program.Please refer to the Tuition and Fee Regulations (http://reg.wayne.edu/students/tuition_and_fee_regulations.php) for additional details.

Great Lakes Policy (Undergraduate Students Only)

Residents of the states of Indiana, Illinois, Wisconsin, Minnesota, New York, Ohio, or Pennsylvania, or the province of Ontario, Canada, who are enrolled in eligible undergraduate programs and who are not eligible for the Good Neighbor Policy may pay Michigan resident tuition rate plus 10 percent.

Online Programs

Students enrolled in programs which are offered online in their entirety will have the out-state portion of their tuition waived. WSU Tuition and

Fee Regulations published each academic year will identify the specific academic programs eligible for this provision.

Review Procedures

Initial Classification and Appeal

1. The student is responsible for registering under proper residence or tuition status and advising the University of changes in circumstances, which might affect tuition status. Questions concerning a student's residence or tuition status prior to enrollment should be raised with the Office of Admissions. Questions arising after enrollment should be raised with the Registrar's Office.
2. After enrolling, a student may challenge the initial classification made by the Office of Admissions by filing an Application for Residence Classification or Change in Tuition Status with the Registrar's Office.
3. Except for documented delays caused by University personnel, such applications must be filed by:

    - September 30 for the Fall semester and the Medical Year semester
    - January 31 for the Winter semester
    - July 31 for the Spring/Summer semester

Deadlines falling on weekends or on days when the University is closed will be extended to the next business day. Applications received after these dates will be processed for the following semester.

Further Appeal

A student may appeal the initial tuition decision as follows:

1. By filing a written notice of appeal with the Registrar within thirty (30) days after the student is notified of the classification decision. The notice of appeal shall include reasons for the appeal, the period for which resident status is claimed, and a complete statement of the facts on which the appeal is based, together with supporting affidavits or other documentary evidence. Failure to file notice within thirty (30) days shall constitute a waiver of any right to further appeal. The student has the right to consult the University Ombuds Office at any time, and the student may particularly want to utilize the Ombuds' services at this point in the review procedures.
2. A student may appeal the Registrar's decision by filing a written notice of appeal with the Office of the General Counsel within fifteen (15) days from the date of the Registrar's decision. Failure to file written notice of appeal of the Registrar's decision with the Office of the General Counsel within fifteen (15) days shall constitute a waiver of any right to further appeal.
3. A student may appeal the decision of the Office of the General Counsel within fifteen (15) days with the Office of the President. Failure to file written notice of appeal of the General Counsel's decision with the Office of the President within fifteen (15) days shall constitute a waiver of any right to further appeal. After the notice of appeal, the President or his designee shall review the student's appeal and render a final decision.

Erroneous Classification

1. If an erroneous classification of non-residence occurs, an adjustment for the appropriate period and amount will be made.
2. If an erroneous classification of residence occurs, the student shall be reclassified as a non-resident student. If the cause of his or her incorrect classification shall be found to be due to any material concealment of facts or false statement made by the student before the time of the original classification, the student will be required to pay all tuition and fees which would have been charged to him or her and also will be subject also to appropriate discipline in accordance with University Student Code of Conduct. If it is determined that there is no such concealment of facts by the student, fees shall be adjusted only for current and future semesters.

Effective Dates of Residence Regulations

Amended statute as adopted on September 20, 2013, will be effective for the Winter Semester 2014.

University and College Centers (Undergraduate Programs)

The centers described below have programs pertaining to undergraduate study. A list of additional centers follows this list. Also see http://www.research.wayne.edu/ci/ for a full listing of University Centers and Institutes and links to web pages describing their functions.

Michigan Developmental Disabilities Institute

Leonard Simons Building, Suite 268, 4809 Woodward Avenue
Telephone: 313-577-2654 or 1-888-978-4334; *Fax:* 313-577-3770
Director: Sharon Milberger, Sc.D; *Email:* smilberger@wayne.edu
Website: http://www.middi.wayne.edu/

The Michigan Developmental Disabilities Institute (MI-DDI) is one of a national network of 67 University Centers of Excellence on Developmental Disabilities (UCEDD), nationally and in U.S. territories. The Institute's mission is to contribute to the development of inclusive communities and quality of life for people with disabilities and their families through a culturally-sensitive statewide program of interdisciplinary education, community support and services, and research and dissemination of information.

Staff and faculty engage in technical assistance, training, and research programs throughout Michigan via collaborative efforts with schools, community agencies, community colleges, and other Universities. Over 10,000 individuals with disabilities benefit from these activities annually. The Graduate Certificate Program in Disabilities teaches evidence based practices to provide services that enhance the quality of life for people living with disabilities. MI-DDI also collaborates with the Wayne State University School of Medicine on the ARIE Co-Curricular clinical initiative, that assists first and second year medical students in obtaining volunteer hours while providing home visits to families that have children with disabilities. MI-DDI is the lead institution for the Michigan Leadership Education in Neurodevelopmental Disabilities program (MI-LEND) Interdisciplinary training program. MI-LEND is a consortium of six Michigan universities including Wayne State University, Michigan State University, Central Michigan University, the University of Michigan/Ann Arbor, the University of Michigan/Dearborn, and Western Michigan University. The goal of the MI-LEND program is to improve the health and well-being of children with neurodevelopmental disabilities. This goal is accomplished by preparing graduate and post-graduate level trainees from diverse professional disciplines to assume leadership roles in their respective fields, and by ensuring high levels of interdisciplinary clinical competence.

The Institute develops activities and projects based on the needs of persons with disabilities and the communities in which they live and work. A 25-member Community Advisory Council, composed of representatives from key statewide organizations, caregivers, family members and individuals with intellectual and developmental disabilities, meets quarterly to provide information and assistance to Institute staff and faculty in establishing priorities and evaluating activities.

Humanities Center

2226 Faculty/Administration Building

Telephone: 313-577-5471; *Fax:* 313-577-2843
Director: Walter F. Edwards, Ph.D.
Email: walter.edwards@wayne.edu
Website: http://www.research2.wayne.edu/hum/

The mission of the Humanities Center is to nurture interdisciplinary, transdisciplinary and intradisciplinary work in the humanities and the arts through competitions, conferences, discussion groups and other programs for Wayne State's humanities and arts faculty and students, and for visiting scholars and artists. The Center promotes excellence in research and creative endeavors through rigorous peer review of proposals submitted to it for funding. By sponsoring programs that involve community participants, the Center supports the University's urban mission. Through its various programs, the Center brings humanists of diverse talents and interests together for conversation and collaboration, and fosters innovation and creativity across the humanistic disciplines.

The Humanities Center provides funding support to both faculty members and students. Two of the Center's most prominent faculty programs are the Marilyn Williamson Endowed Distinguished Faculty Fellowship (MWEDF) and an annual themed Faculty Fellowship Competition. The Center awards either one or two Williamson fellowships a year, each worth $20,000, depending on the funds available in the budget. Other faculty award programs include an annual themed the Faculty Fellowship Competition with between eight and ten recipients awarded up to $6,000 each. Prominent student programs are the Doctoral Dissertation Fellowship and the Graduate Travel program. The Doctoral Dissertation Fellow will receive $15,000 plus health care coverage if it is requested. Up to three smaller awards of $500 may be made at the discretion of the Center to applicants for the award. The Graduate Travel program encourages graduate students in the humanities and the arts to present their research or artistic work at national conferences and exhibitions by offering up to $300 in travel assistance to applicants. Please check the Humanities Center Web site for additional programs that provide funding opportunities for faculty.

Labor Studies Center

3178 Faculty/Administration Building
Telephone: 313-577-2191; *Fax:* 313-577-7726
Director: Gayle Hamilton

The Labor Studies Center is a comprehensive labor education center committed to strengthening the capacity of organized labor to represent the needs and interests of workers, while at the same time strengthening the University's interdisciplinary research and teaching on labor and labor relations issues. The Center's primary areas of research and practice include: training and technical assistance to unions on labor relations and workplace issues; an undergraduate labor studies major and internship program; interventions to increase the organizational effectiveness of unions; the development and diffusion of constructive labor-management relations practices, particularly in the public sector; the formation and institutionalization of labor-community coalitions; and the impact of lean production systems on workers and labor relations practice in the North American auto industry.

Center for Latino/a and Latin American Studies

3324 Faculty/Administration Building
Telephone: 313-577-4378; *Fax:* 313-993-4073;
Director: Jorge L. Chinea, Ph.D.
Email: aa1941@wayne.edu
Website: http://www.clas.wayne.edu/cllas/

The Center for Latino/a and Latin American Studies is a multi-service unit engaged in teaching, research, and service. The Center plays an important role in the urban mission of Wayne State University and involves four components:

1. The Center hosts two learning communities: the CBS Scholars Program and the College-to-Career Program. The first one recruits students into the University, facilitates their transition between high school and college, and promotes increased retention. The second program supports students through completion of their degrees and beyond, especially in the areas of career development and graduate school preparedness. It also offers courses and related educational activities for students interested in Latino and Latin American Studies.
2. It promotes research on issues relevant to the Latino/a community, especially in the urban and workplace environment; and Latin American cultural studies and current issues.
3. It creates and fosters the interaction and exchange of personnel and resources between the University and the Latino/a community; and it serves as a source of expertise on Latino issues to the larger metropolitan community.
4. As an advocate for the awareness and advancement of Latino/a issues within the University, the Center contributes to the University's continuing efforts to create a richer multicultural campus environment.

Center for Excellence and Equity in Mathematics

1309 Faculty/Administration Building
Telephone: 313-577-8839
Director: Steven Kahn, Ph.D.
Email: skahn@math.wayne.edu
Website: http://clas.wayne.edu/ceem/

The Center for Excellence and Equity in Mathematics, in the College of Liberal Arts and Sciences, is a research and educational center with a two-fold mission: to find ways to significantly improve the quality of K-12 and introductory college-level mathematics instruction across the United States; and, by using mathematics as a tool, to provide students from inner cities and underrepresented minority groups with the kinds of educational and lifetime opportunities that should be available to all students.

The Center currently operates five core programs: the WSU Math Corps, an outreach program serving Detroit middle and high school students; the WSU Middle and High School Math Network, which provides day to day instructional and/or operational resources to Detroit are a middle and high school math departments; the Math Corps Learning Community at WSU, a University support and retention program for Math Corps "kids" now attending WSU; and the Emerging Scholars Program (ESP), a WSU honors-level calculus and pre-calculus program; and the Rising Scholars Program (RSP), serving WSU students at the developmental level.

All Center programs are based on a shared commitment to excellence and to fostering a sense of community.

Merrill-Palmer Skillman Institute for Children and Families

71 East Ferry Ave.
Telephone: 313-664-2500; Fax: 313-664-2555
Director: Peter Lichtenberg, Ph.D.
Email: mpsi@wayne.edu
Website: http://www.mpsi.wayne.edu/

The Merrill-Palmer Skillman Institute is an interdisciplinary research institute focusing on urban children and families. It has a long and distinguished history as a research and educational institution, serving as a pioneer in the field of child development and early education. Since it became a part of Wayne State University in 1982, the Institute has encouraged collaborations among faculty from many departments within the University.

The Institute emphasizes research, research training and community engagement and service in the areas of children's health and development. Current research strengths range from prenatal exposures and child development, infant mental health, cognitive development of high risk infants as well as adolescent health and development. The service programs of the Institute are an outgrowth of its research mission. MPSI operates one of the nation's oldest preschools. Community outreach and engagement through MPSI's Healthier Urban Families Program includes training of mental health workers who serve very young children in the care of public and non-profit agencies; consultation to education and child care organizations; workshops for teachers, parents and the public; and the annual Metropolitan Detroit Teen Conference.

Center for Molecular Medicine and Genetics

3127 Scott Hall; 540 E. Canfield
Telephone: 313-577-5323; Fax: 313-577-5218
Director: Lawrence I. Grossman, Ph.D.
Email: l.grossman@wayne.edu
Website: http://genetics.wayne.edu

The Center for Molecular Medicine and Genetics is interdisciplinary by design, built around modern molecular genetics, and comprising basic researchers, physician-scientists, computational scientists, and genetic counselors. The diversity of the Center's members and their backgrounds enables activities that range from basic research to clinical genetics to translation to the bedside and, in some cases, to a biotech company. The underlying goal is excellence in molecular biology, molecular medicine, and genetics to increase the understanding, diagnosis, treatment and prevention of human disease. The Center occupies over 28,000 sq. ft. of state-of-the-art space, including both open and closed laboratories, faculty offices, equipment and special procedure rooms, conference and interaction areas, and a server room to support the Center's faculty, staff and students.

Students in the Center participate in research on gene expression and regulation, including the role of DNA-protein interactions and DNA methylation; the structure, function, and evolution of genes; molecular cytogenetics, genome organization, and mammalian gene mapping; long non-coding RNA discovery and characterization; human reproductive biology; protein-protein interactions; cellular stress responses; mitochondrial biology and genetics; neuroscience and the genetic basis for neurological disease; computational biology and bioinformatics. Considerable emphasis is placed on human and mammalian model systems and on understanding human molecular genetic diseases.

Faculty members of the Center often invite undergraduate students to volunteer in their laboratories - which is an outstanding opportunity for undergraduates to gain experience. The Center encourages students to view the profiles of the faculty and directly contact a professor to inquire about volunteering. In addition, each summer the Center hosts an exclusive Summer Undergraduate Research Program (SURP), from which many undergraduate students have moved on to prestigious universities and programs to pursue graduate degrees.

Summer Undergraduate Research Program (SURP)

Opportunities for research in Molecular Medicine and Genetics are available each summer as part of the Center for Molecular Medicine and Genetics SURP. The program provides sophomore and junior undergraduate students with experience in the research laboratories of the Center, located at the Wayne State University School of Medicine. Over the course of the summer students work in the laboratories of Center faculty members and attended weekly research seminars. When the program ends in August the students present their work to their mentors, peers, and the WSU research community at a symposium.

Center to Advance Palliative-Care Excellence (CAPEWAYNE)

4201 St. Antoine, Suite 5C-UHC

Telephone: 313-577-5751; *Fax*: 313-745-4710
Website: http://www.capewayne.med.wayne.edu

CAPEWAYNE is an interdisciplinary academic center bringing together scholars, educators, researchers and clinicians dedicated to improving the quality of end-of-life care. The main focus areas of this center are education, research and clinical practice, all of which permeated by the field of humanities.

Education: The Center offers an end-of-life curriculum for students, trainees and clinicians across disciplines and levels of training.

Research: The Center gathers researchers who have a shared interest in the conduct of collaborative, interdisciplinary interdepartmental research. Current research projects include evaluating the impact of a palliative care curriculum, called the Compassionate Allies, sponsored by Seasons Hospice Foundation, on the skills and attitudes of pre-medical students.

Clinical Practice: The Center provides resources to clinicians across disciplines and settings that practice palliative care, through a paradigm of sharing and ensuring optimization of clinical care in our community. The Center offered its perennial conference in October, 2014, titled the Palliative Collaborative. It is co-directed by Drs. Mike Stellini and Meg Campbell.

Center for Peace and Conflict Studies

2320 Faculty/Administration Building
Telephone: 313-577-3453; *Fax:* 313-577-8269
Director: Frederic S. Pearson
Website: http://www.clas.wayne.edu/pcs/

On November 20, 1965, the Center for Teaching about War and Peace opened its doors under the leadership of Director Russell Broadhead and a committee of distinguished faculty members. The mission then was to provide interdisciplinary, University-wide, academic programs in the field of domestic and international conflict and peace issues. In 1987, the WSU Board of Governors, building upon this rich heritage, created the Center for Peace and Conflict Studies.

The mission of the Center for Peace and Conflict Studies is to develop and implement projects, programs, curricula, research, and publications in areas of scholarship related to international and domestic peace, war, social justice, arms control, globalization, multi-cultural awareness and constructive conflict resolution. The Center addresses this mission in three ways. CPCS supports undergraduate and graduate student excellence through its academic programs. CPCS staff and students engage in scholarly research initiatives on aspects of domestic and international conflict management. CPCS provides community outreach

programs that emphasize: conflict resolution, development of inter-cultural understanding, and enhance local knowledge of global affairs.

In 2010, the Center added a Graduate Certificate in Peace and Security Studies to its curricular offerings, a program adding an important credential to Masters programs for careers ranging from diplomacy and military affairs to negotiations, violence prevention, education, social service, border security and administration of justice.

Center for Urban Studies

5700 Cass Avenue, Room 2207 Academic/Administration Building
Telephone: 313-577-2208; Fax: 313-577-1274
Director: Lyke Thompson, Ph.D.; Email: ad5122@wayne.edu
Managing Director: Charo Hulleza, M.P.A; Email: c.hulleza@wayne.edu
Email: CUSinfo@wayne.edu

The mission of Wayne State University's (WSU) Center for Urban Studies (Center) is to improve the understanding of and provide innovative responses to urban challenges and opportunities. Since 1967, the Center has been committed to serving Detroit and its metropolitan area by conducting and disseminating research, developing policies and programs, and providing training, capacity-building, and technical assistance. The Center is deeply engaged in program evaluation and policy analysis in a range of areas. Through these approaches, the Center participates in defining and influencing local, regional, state and national urban policy. We work with communities, government, institutions and policymakers to transform knowledge into action. The vast majority of the Center's funding comes from grants and contracts with our customers and partners.

The Center facilitates a wide array of demonstration and research projects through a staff of Ph.D. and Masters-level professionals skilled in social and behavioral science techniques ranging from surveys and focus groups to GIS mapping and information systems development and implementation. The Center employs and engages many students with backgrounds in sociology, psychology, economics, political science, and business administration. The Center collaborates with University faculty who consult on methodological and substantive questions.

Most of the Center's work is focused within six substantive research areas:

- Healthy Homes
- Early Childhood and Disabilities
- Urban Safety
- AmeriCorps
- Urban Health
- Survey Research

The Healthy Homes Unit supports eliminating housing-based health hazards for at-risk populations through research, performance management systems and facilitation. This unit is deeply involved in local and national efforts to eliminate environmental hazards from homes.

The Early Childhood and Disabilities Unit evaluates programs and conducts performance measurements geared to improve the lives of people, including children and students, with developmental delay or disabilities. Evaluation results are used to improve service delivery in programs across the state of Michigan.

The Urban Safety Unit focuses on identifying and implementing collaborative solutions to reduce crime in select Detroit neighborhoods and other Michigan communities. While these urban safety efforts primarily target the Detroit area, many of the research efforts can be expanded at a national level as effective practices for reducing crime and increasing resident guardianship.

The Center's AmeriCorps Urban Safety Project is working with Detroit residents to organize and harden their homes to prevent crime in their neighborhoods. Through these efforts and those of the Midtown CompStat Initiative (collaboration between WSU Police, the Center, and other organizations), crime in Midtown Detroit is down over 50% since 2009.

The Urban Health Unit partners with local agencies to conduct community-based participatory program evaluation research on specific urban health issues such as HIV/AIDS and obesity. Research and evaluation results have improved program delivery and have been published in peer-reviewed journals.

The Survey Research Unit uses the latest computer-aided telephone interview and field data collection methodologies on a variety of research projects for Wayne State faculty and departments and for government departments and community initiatives.

Through these endeavors the Center has major financial and health impacts on the Detroit community while furthering the deeper understanding of our urban challenges.

Other WSU Centers and Institutes

Other Wayne State University Centers and Institutes that may provide opportunities for undergraduates:

Barbara Ann Karmanos Cancer Institute
4100 John R., 2nd Floor; 313-576-8670; Fax: 313-576-8668
Email: beplerg@karmanos.org
Website: http://www.karmanos.org
President and CEO: Gerold Bepler, M.D., Ph.D.

Bioengineering Center
818 W. Hancock, Bioengineering Bldg.; 313-577-0252; Fax: 313-577-8333
Email: king.yang@wayne.edu
Website: http://engineering.wayne.edu/bme/facilities.php
Director: King H. Yang

Cardiovascular Research Institute
4360 Scott Hall; 313-577-4630; FAX: 313-577-8615
Director: Karin Przyklenk, Ph.D.

Center for Automotive Research
2121 Engineering; 313-577-3887; Fax: 313-577-8789
Email: henein@wayne.edu
Director: Naiem A. Henein, Ph.D.

Center for Social Work Research
5447 Woodward Avenue; 313-577-4419; Fax 313-577-8770
Email: ab1350@wayne.edu
Website: http://research.socialwork.wayne.edu/
Director: Joanne Sobeck, Ph.D.

Center for the Study of Citizenship
3155 Faculty/Admin. Bldg.; 313-577-6140; Fax: 313-577-6987
Email: M.Kruman@wayne.edu
Website: http://clasweb.clas.wayne.edu/citizenship
Director: Marc W. Kruman, Ph.D.

Cohn-Haddow Center for Judaic Studies
2311 Faculty/Admin. Bldg.; 313-577-2679; Fax: 313-577-8136
Email: cohnhaddowcenter@wayne.edu
Website: http://www.judaicstudies.wayne.edu/
Director: Howard Lupovitch, Ph.D.

Confucius Institute
Manoogian Hall, Suite 4199; 313-577-0129
Email: ci@wayne.edu
Website: http://www.clas.wayne.edu/ci/
Director: John Brender, Ph.D.

C.S. Mott Center for Human Growth and Development
275 E. Hancock; 313-577-1337; Fax: 313-577-85
Email: chsu@med.wayne.edu
Website: http://mott.med.wayne.edu/
Interim Director: Chaur-Dong Hsu, M.D.-M.P.H.

Douglas A. Fraser Center for Workplace Issues
Walter P. Reuther Library, 5401 Cass Ave.; 313-577-2191; Fax: 313-577-5359
Email: eb9543@wayne.edu
Website: http://www.clas.wayne.edu/fraser/
Director: Marick F. Masters, Ph.D.

Institute for Learning and Performance Improvement
339 Education Bldg.; 313-577-5139; Fax: 313-577-1693
Email: iguerra@wayne.edu
Director: Ingrid Guerra-López, Ph.D.

Institute of Environmental Health Sciences
6135 Woodward Ave., Suite 2115; 313-577-6590; Fax 313-972-8025
Email: iehs_info@wayne.edu
Website: http://www.iehs.wayne.edu
Director: Melissa Runge-Morris, M.D.

Institute of Gerontology
87 E. Ferry St.;
226 Knapp Bldg.; 313-577-2297; Fax: 313-664-2667
Email: ioginfo@wayne.edu
Website: http://www.iog.wayne.edu
Director: Peter Lichtenberg, Ph.D., A.B.P.P.

School of Medicine Ligon Research Center of Vision
K220 Kresge Eye Institute; 313-577-1325; Fax: 313-577-1486
Email: gabrams@med.wayne.edu
Director: Gary Abrams, M.D.

Manufacturing Information Systems Center
Mike Ilitch School of Business, 5229 Cass Ave.; 313-577-4545; Fax: 313-577-4880
Email: aragowsky@gmail.com
Director: Arik Ragowsky, Ph.D.

University Libraries and Archives

Office: 3100 David Adamany Undergraduate Library
Tel.: 313-577-4023; Fax: 313-577-5525
Dean of University Libraries: Jon E. Cawthorne
library.wayne.edu (https://library.wayne.edu)

The University Libraries support the education, research and service missions of the University and its communities through comprehensive, high-quality resources, services and programs. The libraries are leaders in providing accurate and timely information to Wayne State University as well as the metropolitan Detroit area and Michigan. Scholarly materials in the University Libraries offer total more than three million volumes, over 56,000 journal titles and a broad range of electronic resources, including electronic journals and over 800,000 e-books, all available though the Libraries' website.

The Library System includes the David Adamany Undergraduate Library, the Arthur Neef Law Library, the Purdy/Kresge Library, the Vera P. Shiffman Medical Library and its Learning Resource Center at the Eugene Applebaum College of Pharmacy and Health Sciences, and the Walter P. Reuther Library of Labor and Urban Affairs and University Archives. The School of Information Sciences and the Detroit Area Library Network (DALNET) are also under the Library System's charge.

The University Libraries offer in-person and online reference and research support, interlibrary loan, circulation and course reserve services, document delivery and library and information literacy programs. The latest information technologies provide state-of-the-art access to instructional and research materials. The libraries provide silent and collaborative study spaces, including a 24-hour facility, as well as classroom support to over 300 general purpose classrooms throughout campus.

David Adamany Undergraduate Library (https://library.wayne.edu)

The David Adamany Undergraduate Library (UGL) is designed to enhance the learning experience of undergraduate students by offering open spaces for collaboration and silent study as well as hundreds of computers for student use. The library features instructional labs, the Collaborative Commons, an open space with flexible furniture and technology, collaborative study rooms that can be reserved online, and course reserves. The Warrior Writing, Research and Technology Zone (The WRT Zone) is a one-stop shop for Wayne State students to get research, writing and technology assistance. The UGL also houses Student Academic Success Services, which includes the Academic Success Center, Student Disability Services, the Office of Military and Veterans Excellence**,** Pre-Med Advising and the University Advising Center, P.A.L. Peer Assisted Learning and the Irvin D. Reid Honors College. The UGL is also home to The Tech Bunker and Vault, two new technologically-rich immersive learning spaces at the that invite users to develop, design, dream and discover.

Purdy/Kresge Library (https://library.wayne.edu)

The Purdy/Kresge Library supports the research and instructional needs of faculty, graduate students and upper-level undergraduates, as well as the information needs of the greater Detroit community. The library provides access to over sixty 60 computers as well as ample study space in a traditional library atmosphere.

The Purdy/Kresge Library houses a book collection of over 1.5 million volumes, an extensive microform collection, a large document collection and a number of special collections including the Leonard Simons Collection of rare Michigan history texts, the Arthur L. Johnson Endowment collection, and the Ramsey Collection of Children's Literature. This library is also the home of the Teaching Commons, a collaborative effort of the Libraries, the Office for Teaching and Learning, and Computing & Information Technology, that assists faculty and instructors in designing and developing instructional experiences for the classroom and online teaching environments.

Arthur Neef Law Library (https://library.wayne.edu/neef)

Located at the north end of the University's main campus, Wayne State University's Arthur Neef Law Library offers researchers a comprehensive legal research center. Its collection of more than 620,000 print and microform equivalent volumes, plus an expansive collection of e-books, databases and other digital resources makes it a leading legal research facility in the State of Michigan. The Law Library is also a depository for

U.S. government publications and for the records and briefs filed with the Michigan Supreme Court.

Shiffman Medical Library and Learning Resources Centers (https://library.wayne.edu/shiffman)

The Shiffman Medical Library supports the research, education and clinical and public health care information needs for the University, major hospitals within the Detroit Medical Center, and unaffiliated health care providers and trainees throughout Michigan. In addition to assisting WSU undergraduate students with research, learning and internship information needs in the health sciences, all WSU students are encouraged to use the library's consumer health information services. The library maintains access to all the major health sciences, bio-scientific and consumer health databases; a core collection of journals dating to the mid-19th century; and books in print and electronically reproduced. Health information learning programs and informatics workshops, listed on our Website, are open to all members of the University community. A Learning Resources Center focused on the daily information and computing needs of students of the Applebaum College is available Monday through Friday.

Walter P. Reuther Library of Labor and Urban Affairs and University Archives (https://www.reuther.wayne.edu)

The archival collections held in the Walter P. Reuther Library cover a variety of topics, organizations, and individuals. In all, the Reuther Library has more than 95 million documents, 20,000 books, monographs, union publications and proceedings, 2 million photographic images; and 20,000 audio and moving image recordings. Due to issues of format, size, and security, the collection stacks are not open to the public and researchers work with these materials in the Reuther reading room during established hours of business.

The Reuther Library has an international reputation as the largest labor archives in the world and additionally holds significant collections relating to social and urban affairs in the metro Detroit area. It collects and preserves records of the American labor movement, related social, economic, and political reform groups, and twentieth century urban America. The Reuther Library has since become the official depository for the inactive files of several labor unions and organizations, including the United Auto Workers, the American Federation of Teachers, the National Association of Letter Carriers, The Newspaper Guild, the United Farm Workers, the Service Employees International Union, the American Federation of State, County and Municipal Employees, the Air Line Pilots Association, the Association of Flight Attendants, the Industrial Workers of the World, the Society of Women Engineers, and many state and local organizations. Records have also been received from urban and civil rights groups as the Citizens Crusade Against Poverty, the Michigan Chapter of the American Civil Liberties Union, the Detroit Branch of the National Association for the Advancement of Colored People, the United Community Services of Detroit, United Way for Southeastern Michigan, and New Detroit, Inc. A unique portion of the holdings is a labor journal and newspaper collection, which has nearly 1,600 current and non-current titles dating from the late 1800s to the present. Many individuals who played leading roles in labor and urban affairs have also placed their papers in the Reuther Library.

The Reuther Library also houses the Wayne State University Archives which provides historical information about WSU and its predecessor institutions that date to 1868. In addition to collecting the University's historical records, the WSU Archives holds the papers of presidents and administrative leaders, the papers of selected faculty members, and the papers of student and professional organizations that document the development of the University and higher education in Michigan. The WSU Archives also collects all publications created by and pertaining to the University, including the student newspaper from 1917 to present, as well as departmental newsletters. Subjects in the collection range from student activities such as athletics and student organizations, to local subjects such as Central High School, the Detroit Medical Center, and the Detroit Board of Education.

University Policies

University Equality of Opportunity Policy

Wayne State University is committed to a policy of non-discrimination and equal opportunity in all of its operations, employment opportunities, educational programs and related activities.

This policy embraces all persons regardless of race, gender, color, sex (including gender identity), national origin, religion, age, sexual orientation, marital status, familial status, disability, arrest record, weight, qualified Vietnam era veterans, qualified special disabled veterans, recently separated veterans and other protected veterans, or any other characteristic protected by applicable federal or state law. It expressly forbids discrimination, sexual harassment or any form of harassment in hiring, terms of employment, tenure, promotion, placement and discharge of employees, admission, training and treatment of students, extra-curricular activities, the use of University services, facilities and in the awarding of contracts.

This policy also forbids retaliation and/or any form of harassment against an individual as a result of filing a complaint of discrimination or harassment, or participating in an investigation of a complaint of discrimination or harassment.

Wayne State University, as an equal opportunity/affirmative action institution, complies with all applicable federal and state laws regarding non-discrimination and affirmative action. In furtherance of this policy, the University is also committed to promoting institutional diversity to achieve full equity in all areas of University life and service and in those private clubs and accommodations that are used by University personnel. No off-campus activities sponsored by or on behalf of Wayne State University shall be held in private club facilities or accommodations which operate from an established policy barring membership or participation on the basis of race, color, sex (including gender identity), national origin, religion, age, sexual orientation, familial status, marital status, height, weight, disability or veteran status. Affirmative action procedures, measures and program may be used to the extent permitted by law to establish, monitor and implement affirmative action plans for all budgetary units and the University as a whole.

Inquiries regarding equal opportunity Academic/Administrative policies or complaints may be made to:

Office of Equal Opportunity
4324 Faculty/Administration Building
Wayne State University
Detroit, Michigan 48202
Telephone: 313-577-2280
or http://www.oeo.wayne.edu

Disability Non-Discrimination Policy

In accordance with federal requirements of the Americans with Disabilities Act of 1990 and the Rehabilitation Act of 1973, there shall be no discrimination on the basis of disability in Wayne State University's programs, operations and activities, in the hiring, terms

and conditions or privileges of employment or any matter directly or indirectly related to such employment, or in the admission, education and treatment of students. The Student Disability Services Office (http://studentdisability.wayne.edu) has complete information on services available to students.

Drug and Alcohol Free Workplace Policy

Wayne State University is committed to providing a drug-free environment for its faculty, staff, and students. The Board of Governors has made this commitment a formal policy of the University. All faculty, staff and students must abide by the terms of the Board policy as a condition of employment or enrollment at the University. The unlawful possession, use, distribution, sale or manufacture of drugs or alcohol is prohibited on University premises, at University activities, and at University work sites.

Pursuant to that policy, the unlawful possession, use, distribution, dispensation, sale or manufacture of any illicit drugs, and the unlawful possession, use or distribution of alcohol on University property, or at any University work site, or as part of any University activity, is prohibited.

Any employee or student employee who is convicted of a criminal drug offense occurring at the workplace is subject to appropriate employee discipline in accordance with established University policies and collective bargaining agreements, and may be required to participate satisfactorily in a drug abuse or rehabilitation program as a condition of further employment or enrollment.

Any student or employee who, while on University premises or at any University activity, engages in the unlawful possession, sale, manufacture, distribution, or use of drugs or alcohol shall be subject to appropriate sanctions, in accordance with established University policies, the Student Code of Conduct, and collective bargaining agreements, and in conformity with local, state and federal law, up to and including expulsion or termination.

The University encourages employees who may have a problem with the use of illicit drugs or with the abuse of alcohol to seek professional advice and treatment. Individuals who seek assistance with such problems may obtain additional information on a confidential basis by telephoning the Employee Assistance Program (EAP) at 1-800-448-8326. Students may also seek referral assistance by contacting University Counseling and Psychological Services (CAPS), at 313-577-3398.

Policy Governing the Use of Alcoholic Beverages on Campus

The use or possession of alcoholic beverages is expressly prohibited in classrooms, lecture halls, laboratories, the libraries, the chapel and within buildings or arenas where athletic events, lectures, and concerts are held. The use of alcoholic beverages is expressly prohibited in all public areas of campus buildings except as follows: the use of alcoholic beverages, subject to State law, is permitted in areas designated by, and with the approval of, the Office of the President, and the use of alcoholic beverages at student social events, subject to State law, is permitted in areas designated by, and with the approval of, the Office of the President.

Sexual Discrimination, Harassment, and Assault Policy

Title IX of the Education Amendments of 1972 is a federal civil rights law that prohibits discrimination on the basis of sex in education programs and activities. Under Title IX, discrimination on the basis of sex can include sexual harassment or forms of sexual assault, such as rape, sexual assault or sexual battery.

Sexual discrimination is prohibited by Title IX and by University Policy. (WSU Statute 2.28.01).

Sexual harassment is a form of sex discrimination that is prohibited by Title IX and by University policy. It is the policy of Wayne State University that no member of the University community may sexually harass another. (WSU Statute 2.28.06).

Sexual harassment is defined as unwelcome sexual advances, requests for sexual favors, and other verbal or physical conduct or communication of a sexual nature when:

1. Submission to such conduct or communication is made a term or condition either explicitly or implicitly to obtain employment, public accommodations or public services, education, or housing.
2. Submission to or rejection of such conduct or communication by an individual is used as a factor in decisions affecting such individual's employment, public accommodations or public services, education, or housing.
3. Such conduct or communication has the purpose or effect of substantially interfering with an individual's employment, public accommodations or public services, educational, or housing environment, or creates an intimidating, hostile or offensive employment, public accommodations, public services, educational or housing environment.

In the area of speech, what the law and this policy prohibit is speech as action: that is, sexual communication which is either directly coercive as demanding favors, or indirectly coercive, as rising to that level of offensiveness which interferes substantially with the victim's education or employment. The determination of what level of offensiveness is actually coercive, and therefore unlawful and prohibited by this policy, will in some cases be difficult. A significant element in the determination is provided by the fact that an unequal power relationship underlies sexual harassment. The more unequal the relationship, the greater the risk is of substantial interference with the victim's education or employment.

In the area of physical contact, physical contact which is unwelcome is so gravely offensive that it always has the effect of substantially interfering with the victim's employment or educational environment. Employees and students should not take for granted that they are welcome to touch other employees or students, since if their contact is in fact unwelcome, they will be in violation of the law and of this policy. (WSU Statutes 2.28.06.010-2.28.06.080).

Sexual harassment is also unwelcome behavior of a sexual nature that creates a hostile or abusive work or educational environment. Sexual harassment is also unwelcome behavior of a sexual nature that is severe or pervasive and interferes with an individual's work or performance in a course or program

Sexual assault is also prohibited by Title IX and by University policy (01-5 University Policy). Sexual assault includes, but is not limited to any of the following:

1. Any intentional, unconsented, unwelcome physical contact or threat of unwelcome physical contact or attempt thereof, of:
   a. an intimate body part of another person, such as a sexual organ,
   b. any body part of another person with one's sexual organs, or
   c. any part of another person's body with the intent of accomplishing a sexual act; or
2. Unwanted, inappropriate disrobing of another person, or purposeful exposure of one's genitals to another without the other's consent; or
3. Forcing, or attempting to force, any other person to engage in sexual activity of any kind without her or his consent; or

4. Any behavior that is proscribed as "criminal sexual conduct" under the Michigan Penal Code, notwithstanding whether criminal charges have been brought against the individual alleged to have engaged in such behavior. This may include rape, attempted rape, sexual assault or sexual battery.

Date rape and acquaintance rape are forms of sexual assault.

For purposes of the University's statutes/policies on sexual discrimination, sexual harassment and sexual assault, consent shall not be deemed to have occurred if given by a person who is unable to make a reasoned judgment concerning the nature or harmfulness of the activity because of his or her intoxication, unconsciousness, mental deficiency or incapacity, or if the product of threat or coercion. (WSU Statute 2.28.06.060).

Any employee or student will be subject to disciplinary action for violation of any of these policies. If any staff, faculty or student of the University community learns of a sexual discrimination, harassment or assault incident, they should immediately report that incident to either the Title IX Coordinator or the Deputy Coordinator, who are:

Linda Galante, Esq. - Interim Title IX Coordinator
Associate General Counsel
4259 Faculty Administration Building
656 W. Kirby Avenue
Detroit, Michigan 48202
Telephone: 313-577-2280
Fax: 313-577-7738
Email: lgalante@wayne.edu

Dean David Strauss - Deputy Title IX Coordinator
Dean of Students
351 Student Center
Detroit, Michigan 48202
Telephone: 313-577-1010
Email: ak3096@wayne.edu

The Title IX Coordinator's responsibilities include overseeing all Title IX complaints, identifying and addressing any patterns or systemic problems that arise during the review of such complaints, and coordinating the training, education, communication and administration of grievance procedures for faculty, staff, students and other members of the University community.

The Deputy Coordinator is responsible for Title IX compliance for matters involving students, including training, education, communication and administration of grievance procedures for all complaints against WSU students.

Students or employees having a complaint against a WSU student for sexual harassment, sex discrimination or sexual assault, should contact the Deputy Coordinator by phone or email or file a Student Care Report available on Dean of Students' website (http://www.doso.wayne.edu). Any such complaint can also be filed with the Title IX Coordinator.

The University statutes/policies prohibiting discrimination and sexual harassment/sexual violence can be found on the Board of Governors' website (http://www.bog.wayne.edu/code) and among the general university policies (http://policies.wayne.edu). These are also posted by the Office of Equal Opportunity (http://www.deo.wayne.edu) and the Dean of Students Office (http://www.doso.wayne.edu). The purpose of these policies is to assure the fullest possible awareness of WSU's stand on sexual discrimination/harassment/assault and to confirm and regularize WSU's procedures regarding the handling of complaints.

Additional Resources

In addition to filing a complaint with the Title IX Coordinator or Deputy Coordinator, in instances involving rape, sexual assault or sexual battery, students and/or employees should also contact the WSU Police Department at:

6050 Cass Avenue
Detroit, Michigan 48202
Emergency telephone: 313-577-2222
Non-emergency telephone: 313-577-2224
http://www.police.wayne.edu

Violence in the Workplace Policy

Wayne State University is committed to providing a work and educational environment that is free from threats, assaults, or acts of violence. Threats of violence or of physical harm, and any form of physical or sexual assault or threats of physical assault are prohibited. This includes conduct that harasses, disrupts, or interferes with another person's work performance or creates an intimidating, offensive or hostile work or educational environment.

The University has also adopted a Campus Safety Ordinance (WSU Statute 2.87.03) which applies to all property owned, leased or otherwise controlled by Wayne State University and applies to all individuals when present on such property, regardless of whether the individual has a concealed weapons permit or is otherwise authorized by law to possess, discharge or use any device referenced in therein. The ordinance states that no person shall, while on any property owned, leased, or otherwise controlled by WSU:

1. possess or carry on his or her person any firearm, explosive or chemical weapon;
2. carry on his or her person any sword, switchblade knife, or other knife with a blade longer than three inches; and
3. carry on his or her person any other object or device with the intent of intimidating or injuring another person.

Upon conviction of any violation of this ordinance, the violator shall be sentenced to a fine not to exceed $500.00. In addition, violations of this policy may result in disciplinary action under existing University administrative policies. Limited exceptions to this policy exist for University employees expressly authorized to possess or use such weapons, devices or substances, law enforcement officials so authorized, and any individual whose possession or use is in connection with a research or regularly scheduled educational program authorized by the University, for which the Chief of the Wayne State University Police Department has been given at least one week's advance notice.

University personnel are expected to notify appropriate management personnel of any violent or threatening behavior, when that behavior is work-related, carried out on University property, or is connected to University employment. Any individual who has obtained a personal protection order that identifies the workplace as a protected area should provide that information to the Wayne State University Police Department.

MIKE ILITCH SCHOOL OF BUSINESS

Dean: Robert Forsythe

The Mike Ilitch School of Business is a professional school concerned with the theory and practice of business. The primary objectives of the School are to provide relevant education of high quality for business students, and to develop new knowledge through research and encourage application of its findings. To this end, in addition to their instructional services, the faculty has been a continuing source of notable scholarly publications and it is a special strength of the School that it brings a fine research faculty to the teaching of undergraduate as well as graduate courses.

The School has a tradition of instructional programs exemplifying high standards for both faculty and students as is acknowledged by the accreditation of the AACSB International — The Association to Advance Collegiate Schools of Business, the international association for management education, for all degree programs. The School provides relevant, comprehensive business education through programs that serve recent high school graduates as well as older student populations. The student body is racially and ethnically diverse, residential and commuting, and often working and raising families. To meet the needs of these students, the School schedules classes throughout the metropolitan area, during both day and evening hours. Extension Centers are located in Livonia and Warren.

The undergraduate program begins during the freshman year. Freshmen are admitted directly to the Mike Ilitch School of Business. The first two years of undergraduate work are focused on developing an educational foundation in the basic sciences and arts. During the third and fourth years, the student follows a program of professional education. Students may select majors in accounting, finance, global supply chain management, information systems management, management, and marketing. The degrees of Bachelor of Arts and Bachelor of Science in Business Administration are awarded.

The Undergraduate Certificate in Entrepreneurship and Innovation was designed by the Mike Ilitch School of Business to provide students with the specialized knowledge and skills to develop and launch startup ventures. The 15-credit certificate is open to students of all majors. The Post-bachelor Certificate in Accounting enables students who already hold a bachelor's degree in business or accounting to obtain the required educational background to be licensed as a Certified Public Accountant (CPA) in Michigan. The Post-bachelor Certificate in Information Systems Management is designed for individuals who want to update their skill set and desire advanced training in systems analysis and design, databases, web development tools, and other emerging technologies.

The graduate program leading to the Master of Business Administration (M.B.A.) degree is dedicated to educating graduate students for professional careers in business. The Master of Science in Accounting (M.S.A.) program prepares individuals for professional careers in public accounting.The Master of Science in Data Science and Business Analytics (MSDSBA) is a novel interdisciplinary degree program that leverages the strengths of Wayne State in statistics, operations research, computing and business by combining the world-class expertise of the College of Engineering and the Mike Ilitch School of Business. The Master of Science in Finance (M.S.F.) is designed for both recent graduates and working professionals with a bachelor's degree in finance, accounting or another quantitative field who want to advance or shift their careers. The Executive Master of Science in Automotive Supply Chain Management is designed for working professionals with a bachelor's degree who want to progress in the dynamic field of supply chain management in the automotive industry, as well as new graduates who want to immediately pursue advanced studies. The Graduate Certificate in Business is designed to provide non-business undergraduates fundamental knowledge in the basic functional areas of business administration: Accounting, Finance, Management and Marketing. For additional graduate program information, consult the Wayne State University Graduate Bulletin.

The Doctor of Philosophy Program in the Mike Ilitch School of Business prepares students for teaching and research at major universities. The program focuses on quantitative skills, enabling students to engage in research projects with faculty, and places a heavy emphasis on a global perspective.

The Mike Ilitch School of Business also recognizes its obligation to community service. As a central part of an urban university, the School makes a special commitment to foster training, and basic and applied research that will benefit business enterprises. Of primary importance is the dedication to excellence in the instructional programs that prepare the business leadership that is critical to the continuing revitalization of southeastern Michigan.

Mission Statement

Our mission is to prepare our students for challenging and rewarding careers, advance the boundaries of scholarly and practitioner knowledge, and enhance the economic vitality of the city of Detroit, the state of Michigan and beyond through our programs, research and community engagement.

Aspiration and Vision

The Wayne State University Mike Ilitch School of Business aspires to establish itself as one of the leading business schools in the nation as noted in published national rankings (e.g., Business Week, U.S News and World Report, etc.), that reflect favorable student evaluations and recruiter perceptions of both the undergraduate and M.B.A. programs, and the scholarly achievements of the faculty. The School strives to achieve a positive reputation for contributions to knowledge development, for the role it plays in the economic prosperity of the region, and for becoming a school of choice - one which prospective students see as providing a pathway to academic and professional achievement.

Academic Regulations: Mike Ilitch School of Business

For complete information regarding academic rules and regulations of the University, students should consult the Academic Regulations (p. 11) section of this bulletin. The following additions and amendments pertain to the Mike Ilitch School of Business.

All students must fulfill the upper-division requirements of the Mike Ilitch School of Business in effect at the time of admission to the Mike Ilitch School of Business.

Admission to the School

Students seeking a business degree must be granted regular admission (p. 22) to the University to be eligible for admission to the Mike Ilitch School of Business.

Admission to Class

Please consult each term's Schedule of Classes for appropriate dates and deadlines for registration, late registration, and add/drop period. *Students*

may not attend a class for which they are not officially registered and will not be added retroactively.

Application for Degree

Each candidate must file an Application for Degree (https://wayne.edu/commencement/apply-for-graduation), NO LATER THAN THE TENTH DAY OF CLASSES, for the semester in which he or she expects to complete the requirements for the degree. If an Application for Degree was filed for a previous semester in which the student did not graduate, a new application and fee is required.

Attendance Policy

Regular attendance is a necessary condition for success in college study. This policy recognizes that the course content includes classroom lecture and discussion, certain aspects of which may be covered on examinations, quizzes, term papers, or homework assignments. Each instructor will announce his or her attendance standards at the beginning of the term.

Change of Major

Students wishing to change majors or their *Academic Plan* within the Mike Ilitch School of Business must submit a request in writing to the Undergraduate Advisor in the Office of Undergraduate Student Services, 200 Prentis Building. An *Academic Plan* for the requested major will then be mailed. Students are advised that such changes occurring late in their program may result in additional coursework beyond the minimum requirement of 122 credits.

Student Conduct

Each student is subject to official regulations governing student activities and student behavior. Students should familiarize themselves with the obligations of students in the instructional process; see Obligations of Faculty and Students to the Instructional Process. Furthermore, it is the responsibility of each student to adhere to the principles of academic integrity. Academic integrity means that a student is honest with him/herself, fellow students, instructors, and the University in matters concerning his or her educational endeavors. Thus, a student should not falsely claim the work of another as one's own, or misrepresent him/herself so that the measures of one's academic performance do not reflect his/her own work or personal knowledge. Assignments submitted for any class are expected to be original, i.e., not resubmissions of work submitted in a previous or concurrent class.

If there are reasonable grounds to believe that a student has disregarded the regulations or student responsibilities, he or she may be disciplined. Such discipline may include suspension or dismissal, but no dismissal will be directed without reasonable opportunity for an appropriate hearing, as provided in the Student Due Process statute. For the copies of Student Code of Conduct, please refer to the Dean of Students Office (http://www.doso.wayne.edu/assets/codeofconduct.pdf) where the entire document is available for review.

Degrees

Degrees are granted upon the recommendation of the faculty of the Mike Ilitch School of Business. Consideration is given to both scholastic attainment and to compliance with the standards and rules of the School.

Directed Study

A directed study is intended to give students the opportunity to conduct research in an area of interest to them under the supervision of a faculty member; credits vary between one and three. A cumulative grade point average of 3.00 is required to be eligible for consideration for directed study work. Students must complete the *Undergraduate Directed Study* form and obtain the required signatures prior to registration. No more than three credits of directed study in one Department are permitted in any semester. A total of no more than six credits of directed study may be used to fulfill graduation requirements. Contact the Office of Undergraduate Student Services, 313-577-4505, for further information.

Double Major

Students may pursue a double major within the Business School. For more information, contact an advisor in the Office of Undergraduate Student Services 313-577-4505.

Graduation with Distinction

Wayne State University bestows upon students completing the baccalaureate degree three separate designations for scholastic excellence reflected in the cumulative grade point average: *Cum Laude, Magna Cum Laude,* and *Summa Cum Laude*. Graduation with distinction is indicated on the student's diploma and on the transcript.

Honors Program

Current WSU business students with a cumulative grade point average of 3.5 or higher may enroll in courses with an honors component assignment option, and complete the fifteen credit required program (contact the Office of Undergraduate Student Services for details) to qualify for an honors distinction on their transcript and diploma at graduation.

Incomplete Marks

The mark of 'I' is appropriate only when a student has completed all of the requirements for a course except for a specific assignment, such as a project or final examination, and only when the instructor agrees that a student has a valid reason for not completing the assignment.

The mark of 'I' which is not converted to a letter grade within one year from the time it was received will be automatically changed to an 'F'.

Grade Appeals Procedure

It is the instructor's prerogative to evaluate student work and assign grades in accordance with his or her academic and professional judgment. Grounds for appeal of grades include:

1. the application of non-academic criteria in the grading process, as listed in the university's non-discrimination/affirmative action statute: race, color, sex (including gender identity), national origin, religion, age, sexual orientation, familial status, marital status, height, weight, disability, or veteran status;
2. sexual harassment or discrimination; or
3. evaluation of student work by criteria not directly reflective of performance relative to course requirements.

In those instances where a student disputes the final grade awarded, for one of more of the above reasons, the following steps should be taken to appeal the grade in question.

Informal review

The student should discuss the disputed grade with the instructor of the course. If the dispute is not resolved informally, the student may initiate a formal appeal.

Formal appeal procedure

1. Within 30 calendar days following official notification of final grades for the term in which the disputed grade was awarded, and when the informal review fails to resolve the dispute, the student shall submit

a written appeal detailing his/her objection, along with supporting documentation in writing, to the instructor. The instructor should respond in writing within 10 work days.

2. If the dispute remains unresolved, the student shall submit a written statement detailing his or her objections, including a rationale why the department chair should consider this appeal (along with supporting documentation), to the department chair within 10 work days following receipt of the instructor's written response.

   The chairperson shall review the complaint and provide a copy of the written complaint to the instructor. The instructor of the course shall be invited to reply in writing to the objections of the student. Where appropriate, the chairperson may consult with a Grade Appeals Committee for advice in grade disputes. Students will be notified of the chairperson's decision within 20 business days of receiving the request.
3. Matters not resolved at the program level may be appealed to the dean's office. The department chair file folder containing the course syllabus from the semester in which the student took the course, plus the student's letter, the instructor's letter, and the department chair's letter, and the student's written rationale why the dean's office should reconsider this appeal, should be sent to the dean's office. Where appropriate, the dean's office may consult with a Grade Appeals Committee for advice in grade disputes.

   Students shall be notified in writing of the dean's office decision within 30 business days of receiving the request. The dean's office decision shall be the final decision at the college level.

University-level academic appeals procedure

When the procedures within the School have been exhausted, the decision on the record may be appealed with the student's written rationale why the provost's office should reconsider this appeal. Procedures for requesting a provost review are published in the University Bulletin see Appeal Procedures, University.

Normal Program Load

The normal academic load for an undergraduate student in the Mike Ilitch School of Business is from nine to sixteen credits each semester, depending upon the particular courses elected. No student should expect to carry a full load and at the same time be employed full-time. Students desiring to carry more than eighteen credits must obtain written permission from the Office of Undergraduate Student Services prior to registration. Excess credits will not be honored when taken without prior written approval.

Passed/Not Passed Registration

Undergraduate students in the Mike Ilitch School of Business may *not* take courses offered by the Mike Ilitch School of Business on a *passed/not passed* basis.

Probation and Exclusion

A student who registers for, but repeatedly fails to complete his/her program and thus does not make normal progress toward graduation, may be placed on probation.

If a student's academic work is unsatisfactory (less than 2.0 cumulative grade point average or less than 2.0 grade point average in his or her major), the student will be placed on probation with the understanding that he or she will be expected to achieve a cumulative 2.0 grade point average within the next twelve credits completed, or a 2.0 major grade point average within the next six credits completed in the major. If probationary status is not removed within the prescribed number of credits, the student is subject to either temporary suspension or permanent dismissal from either the major or from the Mike Ilitch School of Business.

The second (or subsequent) time(s) a student is placed on probation, he or she is subject to immediate dismissal from the Mike Ilitch School of Business.

In the event of a temporary suspension, readmission to the Mike Ilitch School of Business will be considered only with the recommendation of the Undergraduate Committee. (The Undergraduate Committee is composed of the departmental chairpersons and is chaired by the Assistant Dean of Student Services.) If, after readmission to the Mike Ilitch School of Business, the academic deficiency is not removed within the first nine credits attempted, the student will be permanently dismissed from the School. Coursework completed at another institution during a period of temporary suspension will not be considered for transfer credit.

The exclusion of any student will be reviewed by the Undergraduate Committee of the Mike Ilitch School of Business. A student on probation who fails to complete the courses for which he or she registers, without good reason as determined by the Dean or designee, shall not be permitted to re-register in the Mike Ilitch School of Business.

The Undergraduate Committee, upon the recommendation of the student's Department Chairperson, may permanently exclude a student from a major, if the student fails to remove himself or herself from probationary status within the prescribed number of credits.

In matters where the School's final decision is based upon the evaluation of a student's academic performance and when review procedures available to him or her within the School have been exhausted, the student may request the Provost to review that decision on the record.

While on probation, a student may not represent the School in student activities.

Retaking Courses

The University policy on retaking courses is stated at: Repeating Courses — The mark of R. No course in which a student has received a passing grade or mark may be repeated without the prior written approval of the Assistant Dean of Student Services of the Mike Ilitch School of Business.

Residence Requirement

To qualify for a Baccalaureate Degree from the Mike Ilitch School of Business, the final year and the last thirty-two credits must be taken at Wayne State University. In exceptional cases, a limited number of the last thirty-two credits toward a degree may be taken at another accredited college or university. All such cases must receive the approval of the Assistant Dean of Student Services before the work is undertaken.

Students returning to the School after a five-year absence are required to conform to the program requirements in effect at the time of their return.

Records Retention by Instructors

Term papers and examinations shall either be returned to the student or retained by the instructor for a period of ninety days. Thereafter, they may be destroyed.

Transfer of Courses in Major

No more than six semester transfer credits may be applied toward a student's major requirements. These courses must have received a grade of 'C' or better. Transfer of major credit beyond six semester hours may be applied toward free elective requirements. Only transfer courses taken

at an AACSB accredited college or university or via community college Articulation Agreements will be considered.

Waiver of Degree Requirements

Students must comply with degree requirements as listed in this bulletin and on their Academic Plan. Students may petition for a modification in degree requirements by completing a waiver form and submitting it to the Office of Undergraduate Student Services of the Mike Ilitch School of Business. Waiver of a *School requirement* requires the approval of the Dean or his/her designee. Waiver of a *departmental requirement* requires the recommendation of the departmental chairperson. Undergraduate students are advised that no faculty member is authorized to approve a change in degree requirements.

Withdrawals from Class

Students must follow the university procedures for dropping and adding courses (p. 48).

AGRADE – Accelerated Graduate Enrollment

The Mike Ilitch School of Business has established an accelerated combined undergraduate and graduate program ('AGRADE') whereby qualified students in the Mike Ilitch School of Business may enroll simultaneously in undergraduate and graduate courses of the School. A maximum of twelve credits may be applied towards both undergraduate and graduate degrees in a student's major field if the major department is an AGRADE participant. Those who elect the 'AGRADE' program may expect to complete the Bachelor's and Master's degrees in five years of full-time study.

AGRADE accelerated graduate program option

Save money and time toward your graduate business degree with the Accelerated Graduate Enrollment (AGRADE) program.

Highly qualified Wayne State University Mike Ilitch School of Business students are eligible to participate in the AGRADE program. AGRADE students can cut substantial time and as much as one-third off the total cost of a WSU graduate business degree program by applying up to 12 credits toward both their undergraduate and select graduate degrees.

AGRADE benefits

- Start earning your master of business administration (M.B.A.) (https://ilitchbusiness.wayne.edu/mba), master of science in accounting (M.S.A.) (https://ilitchbusiness.wayne.edu/accounting/ms.php), master of science in finance (https://ilitchbusiness.wayne.edu/finance/masters.php) or executive master of science in automotive supply chain management (https://ilitchbusiness.wayne.edu/supply-chain/masters.php) while completing your bachelor's degree
- Earn graduate credits at undergraduate tuition rates
- Apply up to 12 credits of selected graduate courses (https://ilitchbusiness.wayne.edu/students/agrade.php#agradecourses) as dual credit for undergraduate and eligible graduate programs
- Option to move immediately to the graduate program or rejoin the program later
- Earn both your bachelor's and master's degrees in as little as five years

AGRADE requirements

- Undergraduate major in accounting, finance, global supply chain management, information systems management, management or marketing
- Junior or senior standing (~90 credits earned)
- Overall GPA of 3.5 or higher at WSU
- Major GPA of 3.6 or higher at WSU
- Meet with undergraduate and graduate advisors to discuss program requirements
- Complete the Dual Credit Enrollment Form
- Courses apply to M.B.A., M.S.A., master of science in finance or executive master of science in automotive supply chain management degrees only

Transfer of courses

Only those AGRADE-approved courses in which the student has earned a B or higher will transfer to the graduate transcript. Once in the master's program, students may be required to repeat an AGRADE course in which they earn less than a B grade.

Approved AGRADE courses

For students approved to participate in the AGRADE program, four of the following courses from any one of the program areas listed below may be counted toward both their bachelor's degree and M.B.A. All courses are three credits.

Courses Approved for AGRADE

Take no more than four courses or 12 credits from any one of the following program areas.

Code	Title	Credits
Accounting		
ACC 7120	Introduction to Taxation: Individuals	3
ACC 7122	Advanced Accounting I	3
ACC 7130	Intermediate Managerial Accounting	3
ACC 7145	Accounting Systems: Design and Controls	3
ACC 7148	ERP Systems and Business Integration	3
ACC 7165	Internal Audit I	3
ACC 7180	Auditing	3
ACC 7188	Governmental and Not-for-Profit Accounting	3
ACC 7320	Introduction to Taxation: Business Entities	3
Finance		
FIN 7000	Applied Financial Analysis	3
FIN 7220	Advanced Managerial Finance	3
FIN 7230	Investment Policies	3
FIN 7280	Entrepreneurial Finance and Venture Capital	3
FIN 7870	International Finance	3
FIN 7990	Portfolio Management/Student Managed Investment Fund (SMIF)	3
Global Supply Chain Management		
GSC 7620	Global Supply Chain Management	3
GSC 7650	Strategic Procurement	3
GSC 7670	Special Topics in Supply Chain Management	3
GSC 7991	Principles of Quality Management	3
GSC 7992	Methods of Quality Management	3
Information Systems Management		
ISM 7510	Database Management	3

ISM 7520	Information Systems Design	3
ISM 7530	Societal and Ethical Issues in the Information Age	3
ISM 7560	Survey of E-Commerce	3
ISM 7570	Data Mining	3
ISM 7575	Corporate Computer Networks and IT Security	3
ISM 7900	Project Management	3
ISM 7994	Digital Content Development	3
Management		
EI 7000	Introduction to Entrepreneurship and Innovation	3
MGT 7640	Management of Human Resources	3
MGT 7650	Strategic Human Resource Management	3
MGT 7660	Entrepreneurial Management	3
MGT 7750	Labor Relations and Collective Bargaining	3
MGT 7900	Project Management	3
MGT 8000	Seminar in Management	3
Marketing		
MKT 7150	Global Automotive Marketing Strategy	3
MKT 7430	Advertising Management	3
MKT 7450	Business Research and Methodology	3
MKT 7470	Consumer and Industrial Buying Behavior	3
MKT 7500	International Marketing Strategy	3
MKT 7700	Management of Retail Enterprises	3

Eligibility: 'AGRADE' applicants must have an overall g.p.a. of 3.5 through their junior year. Applicants are also expected to have performed at a superior level in their major, as determined by the major department and reflected in a g.p.a. in the major of at least 3.6 at the time of application.

Application: A student seeking 'AGRADE' status should present to the Mike Ilitch School of Business Graduate Programs Office all of the materials which that department requires for normal graduate admission, EXCEPT for the GMAT or Graduate Record Examination (GRE). Specific graduate admission requirements can be found in this bulletin or obtained from the Graduate Programs Office of the Mike Ilitch School of Business at 313-577-4511.

The earliest date by which a student may apply for the 'AGRADE' program is during the semester in which he/she completes ninety credits toward the undergraduate degree.

AGRADE Credits: Students may elect a minimum of three and a maximum of twelve 'AGRADE' credits. These will be used to complete the baccalaureate degree as well as to serve as the beginning of graduate study. Upon formal admission to a master's program, 'AGRADE' credits are transferred as if they were graduate credits transferred from a graduate program at another university. The remaining graduate credits required for the master's degree will be earned in the conventional manner following formal admission to the graduate program.

For more details about the 'AGRADE' program, contact the Undergraduate Student Services Office or by calling 313-577-4505, or contact the Graduate Programs Office at 313-577-4511 or email gradbusiness@wayne.edu.

Accounting

Office: 385 Mike Ilitch School of Business
Interim Chairperson: Matthew Roling

Accounting Major

The accounting program is designed to prepare students for professional careers in public, corporate, or governmental accounting. While stressing fundamental accounting theory, the curriculum provides thorough application of these concepts to practical situations.

- Accounting (B.A.) (p. 71)
- Accounting (B.S.) (p. 72)
- Accounting Post-Bachelor's Certificate (p. 72)

Accounting B.A.

Admission Requirements: Students who meet the University requirements for regular admission are eligible for admission to the Mike Ilitch School of Business.

Accounting Major

The accounting program is designed to prepare students for professional careers in public, corporate, or governmental accounting. While stressing fundamental accounting theory, the curriculum provides thorough application of these concepts to practical situations. A student who is interested in sitting for the Certified Public Accountant (CPA) Exam or other professional certification should seek advice from the Chair of the Accounting Department or the Chair's designee.

Accounting Major

The accounting program is designed to prepare students for professional careers in public, corporate, or governmental accounting. While stressing fundamental accounting theory, the curriculum provides thorough application of these concepts to practical situations. A student who is interested in sitting for the Certified Public Accountant (CPA) Exam or other professional certification should seek advice from the Chair of the Accounting Department or the Chair's designee.

Degree Requirements

Candidates for the bachelor's degree must complete 120 credits including satisfaction of the degree requirements (p. 25). All course work must be completed in accordance with the academic rules of the University (p. 9) and those of the Mike Ilitch School of Business (p. 67).

The requirements for the Bachelor of Arts are the same as for the Bachelor of Science with the additional requirement that a student must attain a level of proficiency in a single foreign language equivalent to the completion of eleven credits through university-level course work or placement by examination administered by the University's Department of Classical and Modern Languages, Literatures and Cultures. In some instances, completion of the Bachelor of Arts foreign language requirements may result in course work beyond the 120 credit minimum.

The major program in accounting employs a capstone course, ACC 5115, to assess students' knowledge of the discipline. Students who concentrate in accounting must complete the following courses.

Core

Code	Title	Credits
ACC 5100	Intermediate Financial Accounting I	3
ACC 5110	Intermediate Financial Accounting II	3
ACC 5115	Intermediate Financial Accounting III	3
ACC 5130	Accounting Systems Design and Control	3
ACC 5160	Managerial Accounting	3
ACC 5170	Introduction to Taxation: Individuals	3
Total Credits		18

Accounting B.S.

Admission Requirements: Students who meet the University requirements for regular admission are eligible for admission to the Mike Ilitch School of Business.

Accounting Major

The accounting program is designed to prepare students for professional careers in public, corporate, or governmental accounting. While stressing fundamental accounting theory, the curriculum provides thorough application of these concepts to practical situations. A student who is interested in sitting for the Certified Public Accountant (CPA) Exam or other professional certification should seek advice from the Chair of the Accounting Department or the Chair's designee.

Accounting Major

The accounting program is designed to prepare students for professional careers in public, corporate, or governmental accounting. While stressing fundamental accounting theory, the curriculum provides thorough application of these concepts to practical situations. A student who is interested in sitting for the Certified Public Accountant (CPA) Exam or other professional certification should seek advice from the Chair of the Accounting Department or the Chair's designee.

Degree Requirements

Candidates for the bachelor's degree must complete 120 credits including satisfaction of the degree requirements (p. 25). All course work must be completed in accordance with the academic rules of the University (p. 9) and those of the Mike Ilitch School of Business (p. 67).

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Core

Code	Title	Credits
ACC 5100	Intermediate Financial Accounting I	3
ACC 5110	Intermediate Financial Accounting II	3
ACC 5115	Intermediate Financial Accounting III	3
ACC 5130	Accounting Systems Design and Control	3
ACC 5160	Managerial Accounting	3
ACC 5170	Introduction to Taxation: Individuals	3
Total Credits		18

Accounting (Post-Bachelor Certificate)

The post-baccalaureate certificate program in accounting is designed to enable students who already hold a bachelor's degree in business administration or accounting to obtain the required educational background to be licensed as a Certified Public Accountant in Michigan.

Admission: Students must have a bachelor's degree from an accredited institution, with a grade point average of at least 2.0.

Students who have received their undergraduate degree from Wayne State University should process a change in their status at the Registrar's Office to 'Post-Baccalaureate.' Students who have received an undergraduate degree in these areas from another institution must complete the Application for Undergraduate Admission form and request that official transcripts be sent directly to the Office of Admissions.

Certificate Requirements

Candidates for this certificate must successfully complete a minimum of twenty-four credits in course work at Wayne State University following completion of the bachelor's degree, with a cumulative grade point average of not less than 2.0. Of these twenty-four credits, students must complete a minimum of six credits from courses offered by the Department of Accounting. Additionally, a minimum of twelve credits must be from courses offered within the School (Accounting, Finance, Information Systems, Marketing, and Management). Students, who have not completed ACC 3010 and ACC 3020 (or equivalent courses), must complete ACC 3010 and ACC 3020 in addition to the minimum twenty-four credits required for the Certificate.

Each student's *Academic Plan* will be individually designed. Students intending to use this certificate to meet the requirements for licensure as a Certified Public Accountant in Michigan will work with their advisor to ensure that the courses chosen meet the requirements of the licensing body.

The Accounting Post-Bachelor Certificate is designed to be completed in 1 year.

This program will cost $14,527.34 for in-state tuition and fees and $28,767.50 for out-of-state tuition and fees if completed within normal time. There may be additional costs for living expenses. These costs were accurate at the time of posting, but may have changed.

Fewer than 10 students completed this program within normal time. Typical student debt has been withheld to preserve the confidentiality of the students.

Program meets licensure requirements in the following States: Michigan

For more information about graduation rates, loan repayment rates, and post-enrollment earnings about this institution and other postsecondary institutions please click here: **https://collegescorecard.ed.gov/**.

Business Administration (B.A. and B.S.)

Admission Requirements

Effective for students admitted Fall 2009 and thereafter admission to the Mike Ilitch School of Business Undergraduate Program is based upon two criteria: Preprofessional Program Standing and Professional Program Standing, as defined below.

Preprofessional Program Standing is the classification for entering high school students or transfer students admitted directly to the Mike Ilitch School of Business through the WSU Undergraduate Admissions Office. Typically, students are admitted at the freshmen or sophomore levels and pursue Business Foundation requirements, entry level Business Core classes and General Education Requirements. The purpose of the preprofessional coursework is to provide students with business instruction that prepares them for advanced level Business Core courses and business major courses.

Professional Program Standing is the classification for students entering or continuing in the Mike Ilitch School of Business with the completion of fifty-four semester credits at Wayne State University or fifty-four transferable semester credits, and requires a minimum 2.50 grade point average as described in the Mike Ilitch School of Business requirements (consult Frederick Hessler Student Success Center, Room 101 Mike Ilitch School of Business). Entry into Professional Program Standing grants students approval to enroll in advanced Business Core courses and degree-applicable major courses. Students not meeting the grade

point average requirement will NOT be allowed to enroll in either of these course groups until the required grade point average is achieved.

High School Students: Students who meet the University requirements for regular admission (p. 22) are eligible for admission to the Mike Ilitch School of Business.

Transfer Students: Students must meet University requirements for regular admission (p. 22).Students currently in another program at WSU must have a minimum 2.00 g.p.a. to be admitted to the Business School. WSU students with less than a 2.00 g.p.a. will not be considered for admission. Transfer students from outside WSU are required to have a minimum 2.00 g.p.a. from their transfer institution. Transfer students with a 2.0-2.49 g.p.a. will not be allowed to take any Business School Core Courses beyond MGT 2530 and MKT 2300, at the 3000 level or higher or major courses until a minimum 2.5 WSU g.p.a. is achieved. The maximum number of transfer credits that will be accepted from a junior or community college is ninety-six quarter credits or sixty-four semester credits. Equivalency tables have been developed with area community colleges which identify lower division community college courses that are equivalent to the lower-division business foundation courses at Wayne State University. Articulation Agreements have been signed with Henry Ford CC, Jackson CC, Macomb CC, Oakland CC, Schoolcraft CC and Washtenaw CC to transfer 82 hours for certain Associate Degrees. Contact an Iltich Business Advisor for more details.

Application for admission and all official collegiate transcripts must be submitted by transfer students to the Undergraduate Admissions Office of Wayne State University. Qualified applicants will then be referred to the Mike Ilitch School of Business' Frederick Hessler Student Success Center.

Admission Appeals: There is no guarantee of admission to the Mike Ilitch School of Business. Formal written appeals of admission denial may be made to the Assistant Dean of Undergraduate Student Services of the Mike Ilitch School of Business.

General Education Requirements

Students must also satisfy University General Education Competency and Group Requirements (p. 34) as part of the Business Administration curriculum.

Foundation Requirements

In the following curricula all courses satisfying General Education Requirements are cited with their appropriate title-prefix codes. Students should consult the Schedule of Classes for all prerequisites.

Code	Title	Credits
ACC 3010	Introduction to Financial Accounting [1]	3
ACC 3020	Introduction to Managerial Accounting [1]	3
BA 1000	Student Success and Career Development for Business Students	1
BA 1100	Warrior Success (Wayne Experience)	1
BA 1500	Business Tools and Applications	3
BA 2300	Quantitative Methods I: Probability and Statistical Inference [1]	3
BLW 2510	Business Law I	3
COM 1010	Oral Communication: Basic Speech	3
COM 3300	Business and Professional Presentations	3
ECO 2010	Principles of Microeconomics [1]	4
ECO 2020	Principles of Macroeconomics [1]	4
ENG 1020	Introductory College Writing [1]	3
ENG 3010	Intermediate Writing [1]	3
PSY 1010	Introductory Psychology	4
Total Credits		41

[1] MUST be completed with a grade of C or better.

Core Requirements

All students must complete the following core courses. *Students are responsible for observing all course prerequisites and limitations.*

Code	Title	Credits
BA 3400	Quantitative Methods II: Statistical Methods	3
FIN 3290	Business Finance	3
GSC 3600	Operations and Supply Chain Management	3
ISM 3630	Business Information Systems	3
MGT 2530	Management of Organizational Behavior	3
MGT 6890	Strategic Management and Business Policy [1]	3
MKT 2300	Marketing Management	3
Total Credits		21

[1] To be taken as one of the last five courses toward bachelor's degree and after completion of all other core courses.

Major Requirements

Majors and specializations are offered through four academic departments:

- Accounting
- Finance
- Management and Information Systems
- Marketing and Supply Chain Management

Majors in Accounting, Finance, Global Supply Chain Management, Information Systems Management, Management, and Marketing require six courses (eighteen credits). Students also have the option to double major. Each of the undergraduate majors employs a capstone course as a vehicle to assess a student's knowledge of the discipline. Students in all of the majors also complete the capstone course for the undergraduate program: MGT 6890.

Students should refer to the respective departmental section of this bulletin for specific majors and specializations. After selecting a major, students must consult the Frederick Hessler Student Success Center of the Mike Ilitch School of Business to obtain an official Academic Plan. All courses must be taken in accordance with an approved Academic Plan and all course prerequisites and limitations must be observed.

Electives

Electives form an integral part of an education in business. A student's selection of elective courses should be guided, in part, by his or her career objectives. Elective courses constitute study in addition to the business foundation, core, and major requirements listed on the student's Academic Plan.

Each student is encouraged to use elective courses to pursue a double major within the Ilitch School of Business or within another discipline at the University. Elective courses also allow a student to pursue Ilitch Business School Study Abroad opportunities, a Certificate in Entrepreneurship and Innovation and minors in other disciplines at the University.

Language Electives

Students who are preparing for careers in the global economy or employment opportunities overseas or with multinational corporations should consider electing foreign language courses. In addition, students who wish to earn the Bachelor of Arts degree may utilize their electives toward the satisfying of the Bachelor of Arts foreign language requirements (see next tab).

Cooperative Education Program

The Mike Ilitch School of Business actively participates in the University Cooperative Education (Co-op) Program in which students alternate semesters of work and academic study. Eligibility begins in the junior year or upon having earned more than the minimum fifty-four semester credits. Students interested in this program should contact the Mike Ilitch School of Business Career Planning and Placement Office, Suite 299, Mike Ilitch School of Business, 2771 Woodward, 313-577-4871.

Students admitted to the program with minimum junior standing should recognize that an additional calendar year may be needed to fulfill the requirements for the bachelor's degree. No academic credit is granted for participation in the Co-op Program; Satisfactory/Unsatisfactory ('S/U') grades are given, however, and are entered on the official University transcript.

Business Administration (B.S. Program)

Degree Requirements

Candidates for the Bachelor of Science in Business Administration must satisfactorily complete 122 credits including: General Education Requirements, School Requirements, Business Foundation Curriculum, Business Core, Major, and Elective Requirements as outlined below. Within the student's degree program, no more than sixty-four credits in business subjects and upper division economics may be applied toward the degree. All course work must be completed in accordance with the academic rules of the University (p. 9) and those of the Mike Ilitch School of Business (p. 67).

To be eligible for the degree, students must have earned a minimum 2.0 grade point average in the major requirements and a minimum overall grade point average of 2.0 in all undergraduate course work completed at Wayne State University.

Specific Course Requirements: The courses listed below are required of all business students. No substitute courses are permitted except as noted.

School Requirements

Including General Education

Code	Title	Credits
ACC 3010	Introduction to Financial Accounting [1]	3
ACC 3020	Introduction to Managerial Accounting [1]	3
BA 1000	Student Success and Career Development for Business Students	1
BA 1500	Business Tools and Applications	3
BA 2020	Introduction to Business	2
BA 2300	Quantitative Methods I: Probability and Statistical Inference [1]	3
BLW 2510	Business Law I	3
COM 1010	Oral Communication: Basic Speech	3
COM 3300	Business and Professional Presentations [1]	3
ECO 2010	Principles of Microeconomics [1]	4
ECO 2020	Principles of Macroeconomics [1]	4
ENG 1020	Introductory College Writing [1]	3
ENG 3010	Intermediate Writing [1]	3
PSY 1010	Introductory Psychology	4
Total Credits		42

[1] A minimum grade of 'C' (2.0 g.p.a.) must be earned

Business Administration (B.A. Program)

DEGREE REQUIREMENTS are the same as for the Bachelor of Science, cited above, with the additional requirement that a student must attain a level of proficiency in a single foreign language equivalent to the completion of eleven credits through university-level course work or placement by examination administered by the University's Department of Classical and Modern Languages, Literatures and Cultures. In some instances, completion of the Bachelor of Arts foreign language requirements may result in course work beyond the 122 credit minimum.

Business Administration Minor

The Mike Ilitch School of Business offers a minor in business for undergraduate students majoring in other disciplines. The Business Minor consists of six courses, totaling eighteen credits. Students must also complete prerequisite courses with a minimum grade of C (2.0 g.p.a.) for each course. The minor provides an excellent opportunity for non-business majors to broaden their knowledge of the business disciplines. In addition, the program enhances career prospects and establishes a solid business base for pursuing a Master of Business Administration degree. To be eligible to apply for the Business Minor, students must have a minimum overall grade point average of 2.5.

Prerequisite Courses

Code	Title	Credits
BA 2300	Quantitative Methods I: Probability and Statistical Inference	3
ECO 2010	Principles of Microeconomics	4
ECO 2020	Principles of Macroeconomics	4
Total Credits		11

Required Courses

Code	Title	Credits
ACC 3010	Introduction to Financial Accounting	3
MGT 2530	Management of Organizational Behavior	3
MKT 2300	Marketing Management	3
Select one of the following:		3
FIN 3290	Business Finance	
GSC 3600	Operations and Supply Chain Management	
ISM 3630	Business Information Systems	
Two electives from Mike Ilitich School of Business courses		6
Total Credits		18

Entrepreneurship and Innovation (Undergraduate Certificate)

Entrepreneurs and innovators are critical to the long-term health and prosperity of our economy and society. The certificate is designed for students from any background or area of study passionate about understanding and being active participants in the process of starting or nurturing startup ventures, including founders, co-founders, team members and those providing support services. The certificate will benefit current and future for-profit and nonprofit professionals in

business, arts and entertainment, communication and information technology, manufacturing, engineering, science and technology, health care, community and economic development, and other fields. This multidisciplinary program, offered through a collaboration of several schools and colleges, provides an opportunity for students from diverse academic disciplines and areas of interest to learn from each other and exposes students to entrepreneurial action in a variety of settings. The use of an integrative curriculum framework and tool kit across all core and elective courses, experiential learning opportunities built into each of these courses, and consistent interactions with and among students, instructors, coaches, mentors, entrepreneurs, innovators and others engaged in the entrepreneurial environment, provides each student a unique pathway to deeper learning, mastery and higher levels of confidence in applying the specialized knowledge and skills required to develop and launch new venture.

Through this certificate program, students will:

- Demonstrate knowledge of the stages of the new venture creation process, from discovering, creating and refining ideas, to building, testing and evaluating a value proposition and viable business model, to launching, sustaining and growing this new venture by acquiring and managing financial and human resources.
- Learn how lead, manage, and work effectively within teams to achieve success, and to create a positive and ethical work culture.
- Develop a personal network within the entrepreneurial ecosystem with a special emphasis on Detroit and the state of Michigan.
- Tailor their program of study to their unique talents and interests as they explore what it takes to translate ideas into reality, and plan the next steps on their journey of discovery, experimentation and action.

Students who participate in the Entrepreneurship and Innovation Certificate program are eligible to apply for support from the Belinsky Entrepreneurial Learning Laboratory (BELL). The BELL assists sustainable, investment-ready student startups and supports the development of commercialization pathways for WSU intellectual property by providing mentors and subject matter experts, direct support and limited funding to assist in the process of attracting additional funding in the form of revenue growth, grants, loans or direct investment. Direct support will be provided by BELL Fellows, and certificate program students are eligible to apply for these fellowships. Contact the program director for further information.

Admission requirements: Students wishing to pursue the Undergraduate Certificate in Entrepreneurship and Innovation should meet with the program director and the undergraduate advisor for the school or college providing oversight of their undergraduate degree program and major.

CERTIFICATE REQUIREMENTS: Candidates must complete 15 credits in course work satisfying the requirements cited below. All course work must be completed in accordance with the academic procedures of the University governing undergraduate scholarship and degrees; see Academic Regulations stipulated by the school of college which provides oversight of your undergraduate degree program and major.

Code	Title	Credits
Required Courses		6
EI 5000	Introduction to Entrepreneurship and Innovation	
EI 6000	Entrepreneurship and Innovation Capstone	
Elective Courses		9
EI 5200	Startup Funding and Profitability	
EI 5400	Management and Leadership for Entrepreneurs	
ADN 3100	Design Process	
AID 3200	Ethnographic Research Methods for Designers	
AID 4300	Product Design Engineering	
AID 5302	Advanced Studio/Batch Production	
EGR 5655	Innovation & Entrepreneurship I	
EGR 5656	Innovation & Entrepreneurship II	
EGR 5657	Innovation & Entrepreneurship Lab	
EI 5600	Marketing New Ventures	
EI 5900	Special Topics in Entrepreneurship and Innovation	
EI 5950	Directed Study in Entrepreneurship and Innovation	
FIN 5280	Entrepreneurs' Ecosystem	
FPC 5010	Special Topics	
FPC 5660	Creativity	
IE 4355	Product Engineering	
IE 4800	Engineering Design I: Project Management	
IE 4850	Engineering Economy	
IE 4880	Engineering Design II	
IE 6405	Integrated Product Development	
IE 6425	Product Lifecycle Management and Sustainable Design	
IE 6840	Project Management	
IE 6850	Manufacturing Strategies	
ISM 5705	Inbound Information Technology	
Total Credits		15

Note: This list will be updated regularly subject to the review and approval of the curriculum committee of the Entrepreneurship and Innovation program and its advisory board.

Finance

Office: 392 Mike Ilitch School of Business; 313-577-0408
Chairperson: Sudip Datta

Finance Major

Finance is primarily concerned with the determination of value and making decisions about allocation of funds in corporate and individual settings.

Students who major in Finance can apply their knowledge working in corporations and public finance in determining optimum investment strategies, raising funds to finance these investments, and managing daily operations. Students employed in investment banking and other financial institutions trade in varying types of financial assets such as stocks, bonds, and derivatives, allocate wealth across these assets, and manage and hedge risk.

With increasing globalization of the economy, many corporations employ people who are experts at analyzing potential future investments in foreign markets. Finance specialists become involved with currency exchange rates, foreign economic conditions and forecasts, and techniques for reducing the risk of investments.

Degree Programs

- Finance (B.A.) (p. 75)
- Finance (B.S.) (p. 76)

Finance B.A.

Admission Requirements: Students who meet the University requirements for regular admission are eligible for admission to the Mike Ilitch School of Business.

Finance Major

Finance is primarily concerned with the determination of value and making decisions about allocation of funds in corporate and individual settings.

Students who major in Finance can apply their knowledge working in corporations and public finance in determining optimum investment strategies, raising funds to finance these investments, and managing daily operations. Students employed in investment banking and other financial institutions trade in varying types of financial assets such as stocks, bonds, and derivatives, allocate wealth across these assets, and manage and hedge risk.

With increasing globalization of the economy, many corporations employ people who are experts at analyzing potential future investments in foreign markets. Finance specialists become involved with currency exchange rates, foreign economic conditions and forecasts, and techniques for reducing the risk of investments.

Candidates for the bachelor's degree must complete 120 credits including satisfaction of the degree requirements (p. 25). All course work must be completed in accordance with the academic rules of the University (p. 9) and those of the Mike Ilitch School of Business (p. 67).

The requirements for the Bachelor of Arts are the same as for the Bachelor of Science with the additional requirement that a student must attain a level of proficiency in a single foreign language equivalent to the completion of eleven credits through university-level course work or placement by examination administered by the University's Department of Classical and Modern Languages, Literatures and Cultures. In some instances, completion of the Bachelor of Arts foreign language requirements may result in course work beyond the 120 credit minimum.

Finance Major

Finance is primarily concerned with the determination of value and making decisions about allocation of funds in corporate and individual settings.

Students who major in Finance can apply their knowledge working in corporations and public finance in determining optimum investment strategies, raising funds to finance these investments, and managing daily operations. Students employed in investment banking and other financial institutions trade in varying types of financial assets such as stocks, bonds, and derivatives, allocate wealth across these assets, and manage and hedge risk.

With increasing globalization of the economy, many corporations employ people who are experts at analyzing potential future investments in foreign markets. Finance specialists become involved with currency exchange rates, foreign economic conditions and forecasts, and techniques for reducing the risk of investments.

Finance

Code	Title	Credits
Core		
FIN 5000	Financial Statement - Analysis & Modeling	3
FIN 5215	Security Analysis and Portfolio Management	3
FIN 5270	Advanced Business Finance	3
FIN 6996	Corporate Financial Strategies	3
Elective		
Select two of the following:		6
FIN 5090	Capital Markets	
FIN 5220	Portfolio Management	
FIN 5280	Entrepreneurs' Ecosystem	
FIN 5320	Principles of International Finance	
FIN 5330	Bank Management	
FIN 5340	Valuation	
FIN 5890	Internship in Finance	
FIN 6997	Derivative Securities	
Total Credits		18

Students earning a Bachelor's Degree with a major in Finance may find employment in several different areas, including corporate finance, financial institutions, and investments.

Corporate Finance

This area is for the student who wants to concentrate on those aspects of finance that will relate directly to financial decision-making in a business or non-profit organization. The corporate finance area offers careers as financial managers in non-financial corporations. Entry level positions are generally as financial analysts or staff accountants, while potential future responsibilities include management of working capital, operating budgets, financial statement preparation, bank relationships, long term financial planning, capital budgeting, treasury operations and stockholder relations.

Suggested courses to include in final choice of electives for students seeking a career in Corporate Finance:

Code	Title	Credits
FIN 5320	Principles of International Finance	3
FIN 5890	Internship in Finance	3

Financial Markets and Investments

This area is for the student who is interested in working for organizations which offer financial and investment services such as banks, insurance companies and mutual and pension funds. Investment careers can also be found in other financial intermediaries such as investment banking firms, security and investment brokerage houses, and security and commodity exchanges. Responsibilities within such firms are highly varied and include commercial and personal lending, branch management, security analysis, portfolio and trust management, real estate management, and insurance, commodity and security brokerage.

Recommended electives for students seeking a career in Financial Markets and Investments:

Code	Title	Credits
FIN 5090	Capital Markets	3
FIN 5220	Portfolio Management	3
FIN 5280	Entrepreneurs' Ecosystem	3
FIN 5320	Principles of International Finance	3
FIN 5330	Bank Management	3
FIN 5890	Internship in Finance	3
FIN 6997	Derivative Securities	3

Finance B.S.

Admission Requirements: Students who meet the University requirements for regular admission are eligible for admission to the Mike Ilitch School of Business.

Finance Major

Finance is primarily concerned with the determination of value and making decisions about allocation of funds in corporate and individual settings.

Students who major in Finance can apply their knowledge working in corporations and public finance in determining optimum investment strategies, raising funds to finance these investments, and managing daily operations. Students employed in investment banking and other financial institutions trade in varying types of financial assets such as stocks, bonds, and derivatives, allocate wealth across these assets, and manage and hedge risk.

With increasing globalization of the economy, many corporations employ people who are experts at analyzing potential future investments in foreign markets. Finance specialists become involved with currency exchange rates, foreign economic conditions and forecasts, and techniques for reducing the risk of investments.

Candidates for the bachelor's degree must complete 120 credits including satisfaction of the degree requirements (p. 25). All course work must be completed in accordance with the academic rules of the University (p. 9) and those of the Mike Ilitch School of Business (p. 67).

Finance Major

Finance is primarily concerned with the determination of value and making decisions about allocation of funds in corporate and individual settings.

Students who major in Finance can apply their knowledge working in corporations and public finance in determining optimum investment strategies, raising funds to finance these investments, and managing daily operations. Students employed in investment banking and other financial institutions trade in varying types of financial assets such as stocks, bonds, and derivatives, allocate wealth across these assets, and manage and hedge risk.

With increasing globalization of the economy, many corporations employ people who are experts at analyzing potential future investments in foreign markets. Finance specialists become involved with currency exchange rates, foreign economic conditions and forecasts, and techniques for reducing the risk of investments.

Finance

Code	Title	Credits
Core		
FIN 5000	Financial Statement - Analysis & Modeling	3
FIN 5215	Security Analysis and Portfolio Management	3
FIN 5270	Advanced Business Finance	3
FIN 6996	Corporate Financial Strategies	3
Elective		
Select two of the following:		6
FIN 5090	Capital Markets	
FIN 5220	Portfolio Management	
FIN 5280	Entrepreneurs' Ecosystem	
FIN 5320	Principles of International Finance	
FIN 5330	Bank Management	
FIN 5340	Valuation	
FIN 5890	Internship in Finance	
FIN 6997	Derivative Securities	
Total Credits		18

Students earning a Bachelor's Degree with a major in Finance may find employment in several different areas, including corporate finance, financial institutions, and investments.

Corporate Finance

This area is for the student who wants to concentrate on those aspects of finance that will relate directly to financial decision-making in a business or non-profit organization. The corporate finance area offers careers as financial managers in non-financial corporations. Entry level positions are generally as financial analysts or staff accountants, while potential future responsibilities include management of working capital, operating budgets, financial statement preparation, bank relationships, long term financial planning, capital budgeting, treasury operations and stockholder relations.

Suggested courses to include in final choice of electives for students seeking a career in Corporate Finance:

Code	Title	Credits
FIN 5320	Principles of International Finance	3
FIN 5890	Internship in Finance	3

Financial Markets and Investments

This area is for the student who is interested in working for organizations which offer financial and investment services such as banks, insurance companies and mutual and pension funds. Investment careers can also be found in other financial intermediaries such as investment banking firms, security and investment brokerage houses, and security and commodity exchanges. Responsibilities within such firms are highly varied and include commercial and personal lending, branch management, security analysis, portfolio and trust management, real estate management, and insurance, commodity and security brokerage.

Recommended electives for students seeking a career in Financial Markets and Investments:

Code	Title	Credits
FIN 5090	Capital Markets	3
FIN 5220	Portfolio Management	3
FIN 5280	Entrepreneurs' Ecosystem	3
FIN 5320	Principles of International Finance	3
FIN 5330	Bank Management	3
FIN 5890	Internship in Finance	3
FIN 6997	Derivative Securities	3

Information Systems Management (Post-Bachelor Certificate)

The Information Systems Management Post-Bachelor Certificate is designed to be completed in 1 year.

This program will cost $14,527.34 for in-state tuition and fees and $28,767.50 for out-of-state tuition and fees if completed within normal time. There may be additional costs for living expenses. These costs were accurate at the time of posting, but may have changed.

Fewer than 10 students completed this program within normal time. Typical student debt has been withheld to preserve the confidentiality of the students.

This program does not meet any licensure requirements.

For more information about graduation rates, loan repayment rates, and post-enrollment earnings about this institution and other postsecondary institutions please click here: **https://collegescorecard.ed.gov/**.

Law Minor

The Law minor requires a minimum of 18 credits. Students take three classes each in Business and Law.

Requirements for Business Majors

Code	Title	Credits
LEX 5000	Law in Social Context	3
LEX 5010	Law and Harm	3
LEX 5020	Legal Procedure	3
BLW 5190	Business Law II	3
Select two courses from the following list:		6
ACC 5170	Introduction to Taxation: Individuals	
ACC 5270	Introduction to Taxation: Business Entities	
EI 5000	Introduction to Entrepreneurship and Innovation	
FIN 5320	Principles of International Finance	
FIN 5340	Valuation	
GSC 5650	Strategic Procurement	
ISM 4575	IT Security	
ISM 5530	Ethics in Information Technology	
MKT 5460	Sales Management	
MGT 5700	Human Resource Management	
MGT 5740	Collective Bargaining	
MGT 5770	Advanced Human Resource Management	
MGT/ISM 5900	Project Management	
Total Credits		18

Requirements for Non-Business Majors

Code	Title	Credits
LEX 5000	Law in Social Context	3
LEX 5010	Law and Harm	3
LEX 5020	Legal Procedure	3
BLW 2510	Business Law I	3
Select two courses from the following list:		6
BA 1040	Managing Diversity in the Workplace	
BLW 5190	Business Law II	
EI 5000	Introduction to Entrepreneurship and Innovation	
FIN 3290	Business Finance	
FIN 5270	Advanced Business Finance	
FIN 5320	Principles of International Finance	
FIN 5340	Valuation	
GSC 3600	Operations and Supply Chain Management	
GSC 5620	Global Supply Chain Management	
GSC 5650	Strategic Procurement	
ISM 3630	Business Information Systems	
ISM 4575	IT Security	
ISM 5530	Ethics in Information Technology	
MGT 5700	Human Resource Management	
MGT 5740	Collective Bargaining	
MGT 5770	Advanced Human Resource Management	
MGT/ISM 5900	Project Management	
Total Credits		18

Management and Information Systems

Office: 393 Mike Ilitch School of Business; 313-577-4525
Chairperson: Christine Jackson

Information Systems Management Major

Information Systems Management (ISM) refers to the use of computer-based systems to gather and analyze complex information about all aspects of a business. This information is used by managers to make business decisions. Students specializing in ISM frequently pursue career positions as business analysts, data base analysts, ERP specialists, social media specialist, web content manager, and information systems managers. The courses offered in the ISM program emphasize hands-on technical application of relevant software and coverage of content for course-related certification exams.

Management Major

The Management major prepares individuals to compete in a technology-intensive manufacturing or service economy. The required courses have students analyze contemporary management problems, participate in team projects and develop skills in managing people to drive organizational effectiveness.

- Information Systems Management B.A. (p. 78)
- Information Systems Management B.S. (p. 79)
- Management B.A. (p. 80)
- Management B.S. (p. 80)

Information Systems Management (B.A.)

Admission Requirements: Students who meet the University requirements for regular admission are eligible for admission to the Mike Ilitch School of Business.

Information Systems Management Major

Information Systems Management (ISM) refers to the use of computer-based systems to gather and analyze complex information about all aspects of a business. This information is used by managers to make business decisions. Students specializing in ISM frequently pursue career positions as business analysts, data base analysts, ERP specialists, social media specialist, web content manager, and information systems managers. The courses offered in the ISM program emphasize hands-on technical application of relevant software and coverage of content for course-related certification exams.

Degree Requirements

Candidates for the bachelor's degree must complete 120 credits including satisfaction of the degree requirements (p. 25). All course work must be completed in accordance with the academic rules of the University (p. 9) and those of the Mike Ilitch School of Business (p. 67).

Information Systems Management (ISM) refers to the use of computer-based systems to gather and analyze complex information about all aspects of a business. This information is used by managers to make business decisions. Students specializing in ISM frequently pursue career

positions as business analysts, data base analysts, ERP specialists, social media specialist, web content manager, and information systems managers. The courses offered in the ISM program emphasize hands-on technical application of relevant software and coverage of content for course-related certification exams.

Information Systems Management Major

Information Systems Management (ISM) refers to the use of computer-based systems to gather and analyze complex information about all aspects of a business. This information is used by managers to make business decisions. Students specializing in ISM frequently pursue career positions as business analysts, data base analysts, ERP specialists, social media specialist, web content manager, and information systems managers. The courses offered in the ISM program emphasize hands-on technical application of relevant software and coverage of content for course-related certification exams.

Code	Title	Credits
Major courses (choose at least two)		6
ISM 5570	Data Mining and Analytics	
ISM 5860	Data Communications and Networks	
ISM 5992	Database Systems	
Specialization courses		9
Choose three courses from one of the following two tracks.		
Inbound information technology (IIT) specialist		
ISM 5670	Special Topics in Information Systems	
ISM 5705	Inbound Information Technology	
ISM 5994	Software Tools for Business Applications	
Enterprise architecture (EA) analyst		
ISM 5200	ERP Systems: Concepts and Practice	
ISM 5560	Survey of e-Commerce	
ISM 5820	Systems Analysis and Design	
ISM 5900	Project Management	
Capstone (required)		3
ISM 6997	Information Systems Policy and Management	
Supplemental		
ISM 4575	IT Security	
ISM 4990	Directed Study in Information Systems Management	
ISM 5530	Ethics in Information Technology	
ISM 5890	Internship in Information Systems	
Total Credits		18

Information Systems Management (B.S.)

Admission Requirements: Students who meet the University requirements for regular admission are eligible for admission to the Mike Ilitch School of Business.

Information Systems Management Major

Information Systems Management (ISM) refers to the use of computer-based systems to gather and analyze complex information about all aspects of a business. This information is used by managers to make business decisions. Students specializing in ISM frequently pursue career positions as business analysts, data base analysts, ERP specialists, social media specialist, web content manager, and information systems managers. The courses offered in the ISM program emphasize hands-on technical application of relevant software and coverage of content for course-related certification exams. The following five courses plus at least one elective are required for the information systems management major.

Degree Requirements

Candidates for the bachelor's degree must complete 120 credits including satisfaction of the degree requirements (p. 25). All course work must be completed in accordance with the academic rules of the University (p. 9) and those of the Mike Ilitch School of Business (p. 67).

Information Systems Management (ISM) refers to the use of computer-based systems to gather and analyze complex information about all aspects of a business. This information is used by managers to make business decisions. Students specializing in ISM frequently pursue career positions as business analysts, data base analysts, ERP specialists, social media specialist, web content manager, and information systems managers. The courses offered in the ISM program emphasize hands-on technical application of relevant software and coverage of content for course-related certification exams.

Information Systems Management Major

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Code	Title	Credits
Major courses (choose two)		6
ISM 5570	Data Mining and Analytics	
ISM 5860	Data Communications and Networks	
ISM 5992	Database Systems	
Specialization courses		9
Choose three courses from one of the following two tracks.		
Inbound information technology (IIT) specialist		
ISM 5670	Special Topics in Information Systems	
ISM 5705	Inbound Information Technology	
ISM 5994	Software Tools for Business Applications	
Enterprise architecture (EA) analyst		
ISM 5200	ERP Systems: Concepts and Practice	
ISM 5560	Survey of e-Commerce	
ISM 5820	Systems Analysis and Design	
ISM 5900	Project Management	
Capstone (required)		3
ISM 6997	Information Systems Policy and Management	
Supplemental		
ISM 4575	IT Security	
ISM 4990	Directed Study in Information Systems Management	
ISM 5530	Ethics in Information Technology	
ISM 5890	Internship in Information Systems	
Total Credits		18

Management (B.A.)

Admission Requirements: Students who meet the University requirements for regular admission are eligible for admission to the Mike Ilitch School of Business.

Management Major

The Management major prepares individuals to compete in a technology-intensive manufacturing or service economy. The required courses have students analyze contemporary management problems, participate in team projects and develop skills in managing people to drive organizational effectiveness.

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Candidates for the bachelor's degree must complete 120 credits including satisfaction of the degree requirements (p. 25). All course work must be completed in accordance with the academic rules of the University (p. 9) and those of the Mike Ilitch School of Business (p. 67).

The management major prepares individuals to compete in a technology-intensive manufacturing or service economy. The required courses have students analyze contemporary management problems participate in team projects and develop skills in managing people to drive organizational effectiveness.

Students majoring in management will complete the following three core courses, and then select from the designated elective courses listed below.

Management Major

The Management major prepares individuals to compete in a technology-intensive manufacturing or service economy. The required courses have students analyze contemporary management problems, participate in team projects and develop skills in managing people to drive organizational effectiveness.

Code	Title	Credits
Major Courses		
MGT 5530	Advanced Organizational Behavior	3
MGT 5700	Human Resource Management	3
MGT 6995	Topics in Management	3
Elective Courses		
Select three of the following:		9
EI 5000	Introduction to Entrepreneurship and Innovation	
ISM 5900	Project Management	
MGT 5510	Managing Organizational Structure and Processes	
MGT 5650	The Entrepreneur and Venture Creation	
MGT 5740	Collective Bargaining	
MGT 5770	Advanced Human Resource Management	
MGT 5790	Internship in Management	
MGT 5900	Project Management	
Total Credits		18

Students have the opportunity to specialize by selecting their electives so that they have three courses in a specific area such as Human Resource Management and Labor Relations (MGT 5700 [core] plus MGT 5740 and MGT 5770).

Management (B.S.)

Admission Requirements: Students who meet the University requirements for regular admission are eligible for admission to the Mike Ilitch School of Business.

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The Management major prepares individuals to compete in a technology-intensive manufacturing or service economy. The required courses have students analyze contemporary management problems, participate in team projects and develop skills in managing people to drive organizational effectiveness.

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MGT 5650	The Entrepreneur and Venture Creation	
MGT 5740	Collective Bargaining	
MGT 5770	Advanced Human Resource Management	
MGT 5790	Internship in Management	
MGT 5900	Project Management	
Total Credits		18

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Marketing and Supply Chain Management

Office: 389 Mike Ilitch School of Business; 313-577-4525

Chairperson: John C. Taylor

Global Supply Chain Management

The Global Supply Chain Management major focuses on management of the flow of goods and information from the source of components and materials through the channels of distribution to the final customer, and beyond, to recycling and disposal. In today's highly competitive environment, the management of purchasing, operations, quality, transportation, inventory, scheduling, and information flows are ever more critical to an organization's ability to satisfy customers and create a competitive advantage. Whether sourcing from non-domestic suppliers, outsourcing business functions, or attempting to market goods and services to consumers in other areas of the world, today's business leaders need a detailed understanding of all the challenges and opportunities arising from a supply chain that is fundamentally global.

Marketing

The Marketing major is designed to prepare students for a variety of careers in marketing. Marketing is the activity and institution involved in creating, communicating, delivering and exchanging offerings that have value for customers and society. Marketing management involves situation analysis, selection of marketing strategies and target markets, and coordination of product development, pricing, promotion and distribution elements.

- Global Supply Chain Management B.A. (p. 81)
- Global Supply Chain Management B.S. (p. 81)
- Marketing B.A. (p. 82)
- Marketing B.S. (p. 83)

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Code	Title	Credits
Required Courses		
GSC 5600	Logistics and Transportation Strategy	3
GSC 5620	Global Supply Chain Management	3
GSC 5650	Strategic Procurement	3
GSC 5690	Principles of Quality Management	3
GSC 6997	Global Supply Chain Analysis and Planning	3
Select one of the following:		3
GSC 4991	Study Abroad in Management	
GSC 5670	Special Topics in Supply Chain Management	
GSC 5680	Production Planning and Control	
GSC 5996	Process Analysis and Cost Estimating for Buyers	
GSC 5890	Internship in Global Supply Chain Management	
ISM 5200	ERP Systems: Concepts and Practice	
MGT 5740	Collective Bargaining	
MGT 5900	Project Management	
Total Credits		18

Students are strongly advised to take an Internship in Supply Chain Management, either without credit or for credit. Students taking the internship for credit need to take it through:

Code	Title	Credits
GSC 5890	Internship in Global Supply Chain Management	3

Global Supply Chain Management (B.S.)

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Global Supply Chain Management Major

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As a complement to the basic major, students must select to pursue specializations in advertising or marketing management.

All students majoring in marketing must complete the requirements of their specializations and subsequently take MKT 6996.

Advertising/Marketing Communications Specialization

This specialization prepares students for work in a wide variety of businesses, advertising agencies, public institutions, and other organizations. It may serve as a background for people who plan to work in the advertising/marketing communications industry, or for general marketing jobs where promotional issues play a particularly prominent role.

Code	Title	Credits
Major Courses		
MKT 5410	Marketing Research and Analysis	3
MKT 5450	Consumer Behavior	3
MKT 5490	Principles of Advertising	3
MKT 5800	Digital Marketing and Analytics	3
MKT 6996	Strategic Marketing	3
Elective Courses		
Select one of the following:		3
MKT 5460	Sales Management	
MKT 5500	Advertising Copy	
MKT 5510	Advertising Media Planning	
MKT 5850	Integrated Marketing Communications Strategy	
Total Credits		18

Marketing Management Specialization

This specialization provides students with broad exposure to the discipline of marketing management. In addition to the general focus on marketing management, the marketing management specialization trains individuals for a wide spectrum of marketing careers including marketing research, brand management, sales and sales management and product development.

Code	Title	Credits
Major Courses		
MKT 5410	Marketing Research and Analysis	3
MKT 5450	Consumer Behavior	3
MKT 6996	Strategic Marketing	3
Elective Courses		
Select three courses offered by the department of marketing and supply chain management and included on the department list available from the Office of Undergraduate Student Services		9
Total Credits		18

Marketing (B.S.)

Admission Requirements: Students who meet the University requirements for regular admission are eligible for admission to the Mike Ilitch School of Business.

Marketing Major

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Total Credits		18

COLLEGE OF EDUCATION

Dean: Anita G. Welch

The College of Education at Wayne State University is located in, and serves the needs of, one of the nation's largest metropolitan areas. Thus, the College reflects the dynamic character of urban life, and, in its concern with urban problems, places great faith in education as the means by which human circumstances can be improved. To this end, the College prepares educators who have the knowledge, commitment and competence to help young people achieve academic success, preserve individuality, develop democratic values, and realize self-fulfillment.

Professional field experiences are an important aspect of the preparation program; they bring the prospective teacher face-to-face with the realities of the classroom, the school and the community, as well as provide opportunities for participation in the study, research and analysis of contemporary educational issues. These field experiences are scheduled in numerous school districts, community and cultural institutions throughout the metropolitan Detroit area.

As society has been altered by such factors as the development of knowledge, technological advances and population growth, the purposes and processes of education have changed. New technologies of instruction are evolving rapidly and offer the prospective teacher many opportunities for developing a high level of teaching competence. Problems generated in our urban society are complex, and those related to education are no exception. Yet, the opportunities for curriculum innovation, experimentation and leadership have never been greater.

Accreditation

Wayne State University is accredited by the Higher Learning Commission.

The College of Education's teacher certification programs are accredited by the Council for the Accreditation of Educator Preparation (CAEP).

Art Therapy is approved by the American Art Therapy Association (AATA).

Counselor Education is accredited through the Council for Accreditation of Counseling and Related Educational Programs (CACREP) and now includes Rehabilitation Counseling and Community Inclusion, which was formerly accredited through the Council on Rehabilitation Education (CORE). CORE and CACREP have merged.

School and Community Psychology is accredited through the National Association of School Psychologists.

Academic Regulations: College of Education

For complete information regarding academic rules and regulations of the University, students should consult the Academic Regulations (p. 11) section of this bulletin. The following additions and amendments pertain to the College of Education.

Normal Program Load

The normal undergraduate student load is fifteen to sixteen credits per semester. Only in exceptional cases is a student allowed to elect a heavier load. Approval of the advisor and authorization by the Assistant Dean of the Division of Academic Services must be secured in those cases where the student petitions to carry more than eighteen credits within a full semester.

If a significant portion of a student's time is spent in outside work, corresponding adjustments must be made in his/her college schedule.

Admission to Teacher Preparation Programs

College of Education Level 1

Admission to the College of Education is based on two levels. Students are admitted directly into the College of Education Level 1 from high school or other universities or colleges by completing an undergraduate admission application to the University, selection of a College of Education program on the admission application, and acceptance to Wayne State University. Level 1 admission is processed by the:

University Office of Undergraduate Admission, Welcome Center
42 W. Warren Ave., P.O. Box 02759
Detroit, Michigan 48202
telephone 313-577-2100

Level 1 is for newly admitted freshmen, transfer students, and existing Wayne State University students that change their major to Elementary Education or Secondary Education or Special Education or Health and Physical Education. Students already attending Wayne State University from another college who whish to join a teacher preparation program, may complete an online Level 1 Application. (https://waynestate.az1.qualtrics.com/jfe/form/SV_5t2MppxZKaWgm5T)

This level is the beginning of the journey to becoming a certified teacher. In this level students focus on coursework to meet the university's General Education Requirements and courses to build content knowledge of subjects that one may teach. During this time, students explore the decision to become a teacher by completing 40 hours of group work with children and by completing some coursework in teacher education. This is also a time to meet the requirements for the next level of admission by completing Level 2 admission requirements. For transfer students, careful course selection from Transfer Plans (http://transfercredit.wayne.edu) is recommended.

College of Education Level 2

Admission to the College of Education Level 2 program requires a separate online Level 2 Application (https://waynestate.az1.qualtrics.com/jfe/form/SV_3qKtBNQIsMH0zyJ). Students complete the Level 2 application when all Level 2 admission requirements have been fulfilled. These requirements vary by program and students are encouraged to meet with their assigned advisor in Academic Services (Room 489, Education Building) to review requirements specific to their program. Admission to Level 2 is not competitive and students meeting all requirements will be admitted.

Level 2 is the time of transition from student to professional as the journey to becoming a teacher nears completion. In Level 2 students complete coursework in the Professional Education Sequence to learn how to teach, to differentiate instruction, to assess student learning and to deepen one's knowledge of the profession. At the heart of Level 2 are clinical experiences: Experiences in real classroom contexts that allow the pre-service teacher to see, hear, and reflect on the dynamic character of urban classrooms. By the end of Level 2 students should have completed all coursework requirements, passed the Michigan Test for Teacher Certification exams and completed student teaching. Students should be ready for recommendation to the State of Michigan for teacher certification to begin a career in the teaching profession.

Admission to Other Education Programs

Undergraduate students entering Wayne State University, either from high school or transferring from other universities or colleges, are admitted directly into the bachelor's degree program for Community Health, Exercise and Sport Science, Learning Design and Technology and Sport Management.

Transfer of College within the University

A student in good standing from another college of Wayne State University who wishes to transfer to the College of Education submits an online application (https://waynestate.az1.qualtrics.com/jfe/form/SV_5t2MppxZKaWgm5T) directly to the Division of Academic Services.

Alternative Admission and Reinstatement from Academic Exclusion

Alternative admission or reinstatement from academic exclusion is a process for students meeting any of the three categories listed below:

1. Students currently excluded may appeal for reinstatement to the College of Education after not attending classes at Wayne State University for more than one year.
2. Students that have 30 days to immediately appeal an exclusion notification.
3. Students from another college of Wayne State University that currently have less than a 2.5 GPA and are seeking Alternative Admission into the College of Education.

The application for alternative admission or reinstatement is online (http://coe.wayne.edu/admissions/alternative_admission_and_reinstatement_policy.php).

Not all applicants will be admitted or reinstated. Applications for alternative admission or reinstatement are considered on an individual basis and reviewed by a committee based on academic criteria and merit with the final decision resting with the Assistant Dean of Academic Services.

Readmission Following an Interruption in Residence

Undergraduate students whose attendance at Wayne State has been interrupted for three or more years will be required to apply at the College of Education Division of Academic Services for readmission to the College. Deadline dates for such applications are the same as those for regular admission to the College. In instances of prolonged absences of five years or more, it may be necessary to revalidate credits, either through examinations or refresher courses, within the student's major and the professional education sequences.

Attendance

Regularity in attendance and performance is necessary for success in college work. Although there are no officially excused absences as far as College policy is concerned, the conscientious student is expected to explain absences to the instructor. Such absences may be due to illness; to participation in inter-college activities certified by the sponsoring faculty member; or other similar types of absence for which the student can present to the instructor evidence that he/she was engaged in authorized University activities. Each instructor, at the beginning of the course, will announce his/her attendance requirements.

Criminal History Check

Michigan Public Act 68 of 1993 Sec. 1230 requires public and nonpublic schools to conduct a criminal history check of new teachers, school administrators, school psychologists and other personnel required to hold State Board of Education approvals. Students interested in becoming certified teachers must supply a statewide criminal history check prior to admission or transfer to the College of Education and again prior to applying for certification. Additional criminal history checks may be required at the discretion of the College. A criminal history check is completed through Castle Branch (http://coe.wayne.edu/pdfs/criminial_history_new.pdf) for a fee.

Any person seeking admission to a teacher certification program who has been convicted of any offense must provide certified copies of all documents relative to his/her conviction, including the Register of Actions from the court(s) in which the matter was adjudicated and a narrative describing each incident from his/her perspective for review by a committee in the College of Education. Persons determined by the criminal history check to have been convicted of any offense and who do not provide required information at the time of application or transfer will have their admission/certification delayed or denied. After review by the College of Education Committee, the applicant will be notified in writing of the Committee's decision.

Note the State Board of Education Teacher Certificate Code: R 390.1201 Certificates; denial, suspension, or revocation.

1. The superintendent of public instruction may refuse to grant or renew, or may suspend for a fixed term, or revoke, or may impose reasonable conditions on, a teaching certificate or state board approval granted pursuant to these rules for the following reasons:
   a. Fraud, or material misrepresentation, concealment or omission of fact in the application for, or the use of, a teaching certificate or state board approval.
   b. Conviction of an offense listed in MCL 380.1535a or MCL 380.1539b.
2. The superintendent of public instruction may refuse to grant or renew a teaching certificate or a state board approval for failure or ineligibility of the applicant to meet the criteria for the applicable certification or state board approval.

Dean's List

The College of Education Dean's List is a means of recognizing undergraduate students who have excelled academically in a given semester. The Dean's List will be compiled for each semester in the academic year. Inclusion requires a 3.75 g.p.a. for students enrolled for twelve or more semester credits (full-time). Students registered for six to eleven-semester credits (half-time) must earn a 4.00 g.p.a. Students registered for fewer than six-semester credits are not eligible and students who receive marks of 'I,' 'WN,' 'WP,' 'WF,' 'N,' or 'U' are not eligible.

Students will be notified of inclusion in the Dean's List by electronic communication. The Dean's List will be displayed in the College of Education for each semester and posted on its website (http://coe.wayne.edu/student/deans-list.php).

Graduating with Distinction

Wayne State University bestows upon students completing the baccalaureate degree three separate designations for scholastic excellence reflected in the cumulative grade point average: Cum Laude, Magna Cum Laude, and Summa Cum Laude. Graduation with distinction will be indicated on the student's diploma and on the transcript.

Graduation with Distinction will recognize at each graduation the top twenty percent of students in each College who have earned the highest grade point average in their Colleges, with the following approximate distribution:

Summa Cum Laude: Top five percent
Magna Cum Laude: Next five percent
Cum Laude: Next ten percent

Specific minimum grade point averages will be determined each year in the following manner: based on the grade point average distributions of the previous year's senior class, the grade point average cutoffs for each College will be established to provide for recognition of the top eighteen to twenty percent of the graduating students. Graduation with distinction will not be awarded in cases of any g.p.a. less than 3.0.

The criteria for Graduation with Distinction include:

1. A minimum of fifty-six credits in residence at Wayne State University.
2. A qualifying minimum grade point average (calculated as explained above) on all course work at Wayne State University must be completed by the end of the semester of graduation. (For notation in the commencement program, the grade point average on coursework completed prior to the semester of graduation will be used.)

Probation Policy and Withdrawal

University Policy

Effective Fall Term 1988, an undergraduate student whose cumulative g.p.a. falls below 2.00 will be placed on Academic Probation. An Academic Probation status is placed on the student's record and the student shall be permitted to register only after consultation with, and approval has been granted by, a designated University advisor.

The probation status, which blocks registration, may be changed up to the day before classes begin for any given term. Registration for students with a probation status will not be permitted by the advising staff once classes have begun. Because such registration is permitted for one term only, if the student continues on academic probation, they must meet with an advisor each term to permit registration for a future term.

A student shall be given two subsequent terms for enrollment on probationary status. At the conclusion of the two terms, a student who has not achieved a cumulative g.p.a. of at least 2.00 shall be excluded from his/her program. A student excluded from the University may not apply for readmission or reinstatement for one calendar year. Reinstatement is not guaranteed and the application may be denied.

Academic Probation indicates that a student needs to reassess his/ her educational priorities, investigate support services, and/or adjust study habits and techniques. It is important to recognize the warning signs of academic difficulty early in the term so one can seek the appropriate help or make adjustments to their course load or study habits. There are many resources on campus to assist students with academic probation.

College of Education Policy

If, at any time, an undergraduate's overall g.p.a. falls below 2.50, the student is automatically placed on College academic probation. Before registering for the next semester, a student on probation must secure approval from the College Success Coach. The College reserves the right to require a student to withdraw at any time from specific courses or from the College entirely if progress does not warrant a continuance.

Residency Requirement

Applicants for a degree from the College of Education must complete at least thirty credits as a registered student in the College. The student must be in residence (enrolled in courses at Wayne State University) during the semester in which he/she completes requirements for the degree.

Transferred Credits

College credits earned at accredited institutions other than Wayne State University may be transferred by an undergraduate student to meet requirements for the bachelor's degrees in the College, provided:

1. the student has been accepted as a matriculated student in the College;
2. the grades received in courses where transfer is desired have been satisfactory; and,
3. credits so earned are applicable to the student's curriculum.

Students should contact their assigned advisor to discuss transfer of credit.

Students currently enrolled or returning students who have taken courses at another institution, should forward official transcripts to the address below or submitted electronically to admissions@wayne.edu.

Wayne State University
Transfer Credit Evaluation
PO Box 02759
Detroit, MI 48202-0759

Students must consult their advisor prior to registering for any course outside of Wayne State University to discuss the limitations of transferring credits. During the senior year, no more than 10 transfer credits will be accepted.

When the student has a degree from an accredited institution and is meeting the requirements for a Michigan Standard Teaching Certificate, some credits may be applied toward the certificate by transfer but at least fifteen credits must be completed at Wayne State.

Academic Services: College of Education

Office: 489 Education; 313-577-1601
Assistant Dean: Paul W. Johnson
Pre-Admission Graduate Advising: LaSondra Dawn, Deborah Gibson, Mary Waker, Kevin Williams
Graduate Programs Outreach Specialist: Gloria McDonald
Undergraduate Advising: Fawne Allossery, Shawntae Harris, Cassandra Tackett, Kurt Troutman, Tanesha Watkins
Undergraduate Success Coach: Daniel Lewis III
Undergraduate Recruitment Coordinator: Jeffrey Lisiecki
Marketing & Communications: Donna Carroll, Tracy Walker
http://coe.wayne.edu/as/

Purposes of the Division

The Division of Academic Services in the College of Education is responsible for Undergraduate Advising, Graduate Admissions, Graduation & Certification, Marketing & Communications, Curriculum: Course & Program Proposals, Course Scheduling & the Bulletin, the Education Scholars Alliance Program, and Graduate Faculty Appointments.

Advising Services

Advising in the College of Education is centralized for undergraduate students in the Division of Academic Services and decentralized for graduate students in the four academic divisions of the college: 1) Administrative and Organization Studies, 2) Kinesiology, Health and Sport Studies, 3) Theoretical and Behavioral Foundations, and 4) Teacher Education. Undergraduate students have professional advisors and graduate students are advised by faculty in the student's program. Every student admitted to the College of Education is assigned an advisor.

Undergraduate Advising

Advising at the undergraduate level is from "start to finish" meaning students have the same advisor from the time of admission through graduation. Having the same advisor allows for deeper relationships and connections to form between student and advisor. Start to finish advising results in consistent advising and messaging with students and creates a culture of expectations and accountability, for both the advisor and student. This level of support fosters the student's connection to the university, resourcefulness, and leads to maintaining or improving student persistence towards academic goals.

Undergraduate advisors also engage in group advising efforts by visiting courses taken by students early in their major and making presentations related to program requirements. Advisors utilize and encourage students to take advantage of university tools such as Advising Works, Degree Works, and STARS to maintain satisfactory academic progress.

Undergraduate students are encouraged to meet with the advisor at least once per semester. Students schedule appointments online with their advisor through the university's Advising Works system. In addition, Academic Services provides "Open Advising" each Tuesday from 9:00 am to 4:00 pm. Open Advising is on a first-come, first-serve basis and is an ideal time for students to resolve registration problems, completion of verification forms and appeals, submission of applications and general advising questions. Scheduled appointments are for at least 30 minutes for completion of plans of work, establishing multi-year plans, reviewing, student progress toward degree completion, discussion of challenges to matriculation, referral to other university offices and support centers and to keep students focused and on track for completion of degree and certification requirements.

Students seeking admission information should contact Academic Services by calling 313-577-1601, via e-mail at askcoe@wayne.edu, or by attending Open Advising every Tuesday from 9:00 a.m. to 4:00 p.m. in room 489 Education. The Academic Services Office also advises in-service teachers working for professional certification and those seeking additional certificate endorsements.

College Success Coach

The College Success Coach helps students succeed by developing intervention strategies, determining areas of difficulty, and identifying support resources. Students new to the university, on or near probation, struggling with transitioning to college, or experiencing poor academic performance are encouraged to meet with the Success Coach.

The Success Coach will help students succeed in and out of the classroom by establishing a shared vision of student success, identifying the areas in which the student is struggling, and identifying resources to aid with the areas of need:

- Study Strategies
- Career Exploration
- Time Management Strategies
- Stress and Anxiety Relief Techniques
- Goal Setting
- Scholarship Assistance

In addition, the Success Coach provides assistance and resources for students preparing for the Michigan Test for Teacher Certification.

Undergraduate Student Services

In addition to advising, the Divison of Academic Services provides the following services to students:

- Degree and certificate audits for graduation.
- Recommendations to the Michigan Department of Education for certification and licensure (see the Certification section below).
- Monitoring of the university's academic probation system.
- Annual Educator Job Placement Fair for PK-12 careers.

Certification

As a liaison to the Michigan Department of Education, the Division of Academic Services recommends candidates for initial certification as teachers, administrators, and school psychologists; approvals for supervisors and directors of Special Education; and licensure for school counselors. Additionally, the division helps candidates secure endorsements to existing teacher and administrator certificates.

Administrative and Organizational Studies

Office: 341 Education Building; 313-577-1728
Interim Assistant Dean: William E. Hill
http://coe.wayne.edu/aos/index.php

The Division of Administrative and Organizational Studies has as its primary goal the development and enhancement of leadership and organizational learning. It is within the scope of this division to study emergent trends, technologies and educational innovations; to develop rationales for supporting educational change; to present viable programs of study for advanced students in education which will enable them to function skillfully as educational leaders in facilitating change, and in developing and conducting on-going programs; and to design and implement learning innovations, and the impact of instructional methodologies on the improvement of human and organizational performance. Program areas, Educational Leadership and Policy Studies, and Learning Design and Technology, are under the guidance of this Division.

- Learning Design and Technology (B.A.) (p. 87)
- Learning Design and Technology (B.S.) (p. 88)
- Learning Design and Technology Minor (p. 89)

Learning Design and Technology (B.A.)

The Bachelor of Arts and Bachelor of Science in Learning Design and Technology prepares students for work in instructional design, development, and implementation. Graduates of the program will be qualified for careers in business, public or private agencies, heath care institutions, military or governmental entities, and a variety of community and professional firms. They will be prepared to become instructional developers, corporate training developers, project managers, media specialists, etc. Graduates of this program may also wish to pursue

graduate studies in Learning Design and Technology, Administration, or related fields.

Admission Requirements

1. The admission requirements for the undergraduate program in Learning Design and Technology are the same as for admission to the University. Undergraduate students entering Wayne State University, either from high school or transferring from other universities or colleges, are admitted directly into the College of Education degree program in Learning Design and Technology.
2. Attend a mandatory orientation to the Learning Design and Technology Program (by invitation only).

Candidates for the Bachelor of Arts or Bachelor of Science in Education with a Major in Learning Design and Technology must complete a minimum of 120 credits. All course work must be completed in accordance with the academic procedures of the College of Education (p. 84) and the University (p. 9) governing undergraduate scholarship and degrees. At graduation, the College of Education requires a minimum 2.5 grade point average.

1. Completion of all General Education Requirements (p. 34). General Education Requirements may be met by transfer of community college courses, the WSU General Education Transfer Policy/ MACRAO, MTA, and/or by completing WSU courses.
2. Up to 50 credits of lower-division coursework in any discipline. LDT major coursework builds on previous work in psychology, information management, business, communications, graphic design and many other areas of study.
3. The Bachelor of Arts degree requires completion of a Foreign Language to the intermediate level.
4. Completion of the College of Education mathematics requirement.
5. Completion of the required Major Courses.
6. A minimum cumulative g.p.a. of 2.5 with no grade below a 'C' in any program course.

Required Major Courses

The following courses are completed at Wayne State University:

Code	Title	Credits
LDT 2015	Introduction to Learning Design and Technology	3
LDT 3115	Instructional Design	3
LDT 3125	Evaluation Techniques and Tools	3
LDT 3135	Practical Project Management	3
LDT 3145	Interactive Course Design	3
LDT 4135	Engaging Presentation and Facilitation Strategies	3
LDT 4145	Digital Games for Learning	3
LDT 4155	Simulations for Learning	3
LDT 4165	Digital Video for Learning	3
LDT 4235	Directed Study in Learning Design and Technology	1-4
LDT 4905	Advanced Seminar in Learning Design and Technology	3
LDT 4920	Internship in Learning Design and Technology	4
LDT 4995	Capstone Seminar in Learning Design and Technology	3
Select two of the following courses for a minimum of 6 credit hours:		
LDT 4195	Emerging Technologies	3
LDT 4310	Next Generation Learning Management Systems	3
LDT 4410	Multi-dimensional Learning Environments	3
LDT 5275	Learning in Organizations	4

College of Education Mathematics Requirements

Code	Title	Credits
STA 1020	Elementary Statistics	3

Learning Design and Technology (B.S.)

The Bachelor of Arts and Bachelor of Science in Learning Design and Technology prepares students for work in instructional design, development, and implementation. Graduates of the program will be qualified for careers in business, public or private agencies, heath care institutions, military or governmental entities, and a variety of community and professional firms. They will be prepared to become instructional developers, corporate training developers, project managers, media specialists, etc. Graduates of this program may also wish to pursue graduate studies in Learning Design and Technology, Administration, or related fields.

Admission Requirements

1. The admission requirements for the undergraduate program in Learning Design and Technology are the same as for admission to the University. Undergraduate students entering Wayne State University, either from high school or transferring from other universities or colleges, are admitted directly into the College of Education degree program in Learning Design and Technology.
2. Attend a mandatory orientation to the Learning Design and Technology Program (by invitation only).

Candidates for the Bachelor of Arts or Bachelor of Science in Education with a Major in Learning Design and Technology must complete a minimum of 120 credits. All course work must be completed in accordance with the academic procedures of the College of Education (p. 84) and the University (p. 9) governing undergraduate scholarship and degrees. At graduation, the College of Education requires a minimum 2.5 grade point average.

1. Completion of all General Education Requirements (p. 34). General Education Requirements may be met by transfer of community college courses, the WSU General Education Transfer Policy/ MACRAO, MTA, and/or by completing WSU courses.
2. Up to 50 credits of lower-division coursework in any discipline. LDT major coursework builds on previous work in psychology, information management, business, communications, graphic design and many other areas of study.
3. Completion of the College of Education mathematics requirement.
4. Completion of the required Major Courses.
5. A minimum cumulative g.p.a. of 2.5 with no grade below a 'C' in any program course.

Required Major Courses

The following courses are completed at Wayne State University:

Code	Title	Credits
LDT 2015	Introduction to Learning Design and Technology	3
LDT 3115	Instructional Design	3
LDT 3125	Evaluation Techniques and Tools	3
LDT 3135	Practical Project Management	3
LDT 3145	Interactive Course Design	3
LDT 4135	Engaging Presentation and Facilitation Strategies	3
LDT 4145	Digital Games for Learning	3
LDT 4155	Simulations for Learning	3
LDT 4165	Digital Video for Learning	3

LDT 4235	Directed Study in Learning Design and Technology	1-4
LDT 4905	Advanced Seminar in Learning Design and Technology	3
LDT 4920	Internship in Learning Design and Technology	4
LDT 4995	Capstone Seminar in Learning Design and Technology	3
Select two of the following courses for a minimum of 6 credit hours:		
LDT 4195	Emerging Technologies	3
LDT 4310	Next Generation Learning Management Systems	3
LDT 4410	Multi-dimensional Learning Environments	3
LDT 5275	Learning in Organizations	4

College Education Mathematics Requirement

Code	Title	Credits
STA 1020	Elementary Statistics	3

Learning Design and Technology Minor

The Learning Design and Technology Minor is available to undergraduate students majoring in other disciplines. The minor provides an excellent opportunity for non-education majors to broaden their knowledge of the learning and performance improvement disciplines. In addition, the program enhances career prospects and establishes a solid business base for pursuing a Master of Education in Learning Design and Technology degree.

The Learning Design and Technology Minor consists of six courses, totaling eighteen credits. To be eligible to apply for the minor, students must have a minimum cumulative g.p.a. of 2.5.

Code	Title	Credits
Required Courses		6
LDT 3115	Instructional Design	
LDT 3125	Evaluation Techniques and Tools	
Select 4 of the 5 following courses:		12
LDT 3145	Interactive Course Design	
LDT 4145	Digital Games for Learning	
LDT 4155	Simulations for Learning	
LDT 4165	Digital Video for Learning	
LDT 4195	Emerging Technologies	
Total Credits		18

Students must achieve a cumulative g.p.a of 2.5 or better with no grade below 'C' in the 18 minor credits.

Kinesiology, Health, and Sport Studies

Office: 2152 Faculty Administration Building; 313-577-4249
Assistant Dean: Nathan A. McCaughtry
http://www.kinesiology.wayne.edu

The Division of Kinesiology, Health and Sport Studies offers courses at the undergraduate level leading to Bachelor of Science degrees in several professional areas: Kinesiology (with concentrations in Exercise and Sport Science and Physical Education and Physical Activity Leadership) and Health Education (with concentrations in School Health and Community Health). The Division also offers teacher certification minors and/or endorsements in Physical Education, Health Education, or Adapted Physical Education. Additionally, the Division offers courses in lifestyle fitness activities available to all Wayne State University students.

The Lifestyle Fitness Activities (LFA) program is an integral part of the Division; it provides students with the opportunity to enhance physical well-being and to acquire developmental skills, knowledge, and attitudes which can be utilized throughout life. Participation in these courses also enhances self-esteem, self-responsibility, and self-determination. LFA courses are offered to both undergraduate and graduate Wayne State students; however, these courses are not offered for graduate credit. LFA courses may also be elected by non-matriculated and visiting students.

- Kinesiology (B.S.) (p. 93)
- Health Education (B.S.) (p. 90)
- Sport Management (B.S.) (p. 95)
- Community Health Minor (p. 89)
- Health Education Minor (p. 92)
- Physical Education and Physical Activity Leadership Elementary Minor (Grades K-5) (p. 94)
- Physical Education and Physical Activity Leadership Secondary Minor (Grades 6-12) (p. 95)
- Sport Management Minor (p. 95)
- Adapted (p. 89) Physical Education (p. 89) Endorsement (p. 89)

Adapted Physical Education Endorsement

Courses leading to a teaching endorsement in Adapted Physical Education are available only to physical education and special education majors. To be admitted the student must possess a valid Michigan teaching certificate in physical education or any area of special education, or be enrolled in one of those programs. Physical education and special education majors must consult with their advisors, prior to electing courses for this endorsement.

Code	Title	Credits
KIN 5400	Adapted Physical Activity	3
KIN 5410	Methods and Materials: Adapted Aquatics	3
KIN 5420	Disability and Sports	3
KIN 5425	Assessment and Service Delivery in Adapted Physical Education	3
KIN 5430	Leadership Training and Practicum in Adapted Physical Education	3
SED 5260	Effective Instructional Strategies for Exceptional Learners	3
SED 5000	History, Philosophy, and Ethics of Teaching Students with Disabilities	2
SED 5080	Supportive Environments, Engaged Learning	2
Total Credits		22

Community Health Minor

The College of Education offers a minor in Community Health (CH) Education for undergraduate students majoring in other disciplines. The minor provides an excellent opportunity for students to broaden their knowledge of the social and behavioral aspects of health promotion and policy. In addition, the program enhances career prospects and establishes a solid base for pursuing a Master of Education in Health Education. To be eligible to apply for the CH Minor, students must have a minimum cumulative grade point average of 2.75.

The Community Health Minor consists of six courses, totaling eighteen credit hours. All coursework must be completed in accordance with the academic procedures of the College of Education (p. 84) and the University (p. 9) governing undergraduate scholarship and degrees. All major, minor, and education courses, must be completed with grades of 'C' or better and an overall 2.5 grade point average, to meet College graduation requirements.

Code	Title	Credits
HE 1010	Foundations of Health and Health Promotion	3
HE 2320	Advancing Policy in Community Health Education	3
HE 4010	Foundations of Community Health Program Planning	3
HE 6501	Measurement and Evaluation in Community Health Education	3
Select at least 2 of the following courses:		6
HE 2310	Dynamics of Personal Health	
HE 3330	Methods in Teaching Health	
HE 3344	Methods and Materials in Community Health Education	
HE 3440	Nutrition and Health Education	
HE 4340	Family and Reproductive Health	
HE 5220	Health Behavior Change	
HE 5440	Mental Health and Substance Abuse	
ANT 3400	Introduction to Medical Anthropology	
ANT 5240	Cross Cultural Study of Gender	
ANT 5400	Anthropology of Health and Illness	
COM 3400	Theories of Communication	
COM 4270	Group Communication	
COM 5130	Communication and Social Marketing	
COM 5320	Health Communication	
COM 5360	Gender and Communication	
DR 6120	Human Diversity and Human Conflict	
EDP 5450	Child Psychology	
EDP 5480	Adolescent Psychology	
EER 4501	Quantitative and Qualitative Research, Measurement, and Program Evaluation	
GSW 2700	Social Science Perspectives on Gender, Sexuality, and Women	
GSW/AFS 5110	Black Women in America	
GSW 5200	Feminist, Gender, and Queer Theory	
HIS 2530/ PCS 2050/ PS 2550/ SOC 2050	The Study of Non-Violence	
KHS 6540	Workshop in Kinesiology, Health and Sport Studies *	
KIN 3540	Cultural Foundations of Kinesiology	
KIN 5360	Senior Research Project *	
KIN 5520	Sport Psychology	
KIN 5523	Physical Activity and Exercise Psychology	
MGT 2530	Management of Organizational Behavior	
NFS 2030	Nutrition and Health	
NFS 3230	Human Nutrition	
NFS 3270	Eating Disorders	
NFS 5220	Community Nutrition	
NFS 5230	Nutrition and Metabolism	
NUR 4800	Transcultural Health Through the Life Cycle	
PH 2100	Introduction to Public Health	
PH 3100	Social and Behavioral Aspects of Public Health	
PH 3200	Introduction to Biostatistics	
PH 3300	Epidemiology	
PH 3600	Special Topics in Public Health	
PH 4600	Special Topics in Health Disparities	
PH 4900	Directed Study in Public Health	
PHI 1110	Ethical Issues in Health Care	
PSY 2020	Research Methods In Psychology	
PSY 2030	Statistical Methods in Psychology	
PSY 2100	Psychology and the Workplace	
PSY 2300	Psychology of Everyday Living	
PSY 2400	Developmental Psychology	
PSY 2600	Psychology of Social Behavior	
PSY 3060	Psychology of Learning and Memory: Fundamental Processes	
PSY 3200	Motivation, Feeling and Emotion	
PSY 3250	Psychology of Gender	
PSY 3310	Abnormal Psychology	
PSY 3380	Human Sexuality	
PSY 3430	Infant Development	
PSY 3480	Parent-Child Interaction Across the Lifespan	
PSY 3490	Psychology of Adult Development and Aging	
SOC 3200	Methods of Social Research	
SOC 3440	American Medicine in the Twentieth Century	
SOC 3710	Learning About Your Community Through Research	
SOC 5360	Introduction to Medical Sociology	
SOC 6750	Sociology of Urban Health	
Total Credits		18

* Must have approval of advisor.

Health Education (B.S.)

The B.S. in Health Education is offered with two concentrations: 1) School Health and 2) Community Health.

School Health Concentration

Admission Requirements: Undergraduate students entering Wayne State University from high school or transferring from other universities or colleges are admitted directly into the College of Education with Level 1 standing. Students should request admission into the health education program. General Education classes, along with the health education major classes for Level 1 are taken concurrently. Students must apply to the College of Education for Level 2 standing (http://coe.wayne.edu/as/forms.php) when they have met the criteria listed below.

Criteria for Admission to Level 2 (no exceptions will be made):

1. Completion of a minimum of fifty-three credits of coursework with at least twelve credits in Health Education.
2. Cumulative grade point average of at least 2.5.
3. Successful Completion of Intermediate Composition (IC).
4. Completion of the College of Education mathematics requirement.
5. Successful completion of the Professional Readiness Exam.
6. Current Negative TB test within the past three.

7. Verification of forty hours of successful group work with children. The State defines a group as three or more children (not ones own) between the ages of three and eighteen. The group work experience needs to be recent (within the last five years) at the time of admission to Level
8. A current (within the past six months) statewide criminal history check (http://www.michigan.gov/ichat).
9. A copy of all transcripts from all Colleges/Universities attended including WSU.
10. A signed plan of work.
11. Once the above requirements are fulfilled, students must complete a Level 2 Application form to be submitted to the College of Education.
12. Attendance at a mandatory College of Education Level 2 Orientation.

Community Health Concentration

Admission Requirements: Undergraduate students entering Wayne State University, either from high school or transferring from other universities or colleges, are admitted directly into the College of Education Level 2 degree program.

Admission questions should be directed to the Division of Academic Services, College of Education, 489 Education, phone 313-577-1601.

A minimum of 124 credits are required for completion of this degree: satisfaction of the University General Education Program (p. 34); thirty-three core credits in health education (see below); a minimum of twenty credits in a selected minor; and thirty-five credits in professional education requirements (see below). All coursework must be completed in accordance with the academic procedures of the College of Education (p. 84) and the University (p. 9) governing undergraduate scholarship and degrees. All courses must be completed with grades of 'C' or better and an overall 2.5 grade point average, to meet College graduation requirements. Course changes may occur through periodic curriculum revision and students are urged to consult assigned advisors prior to each registration period to ensure that all requirements are met.

School Health Concentration

Teacher Certification: The following requirements apply to students seeking teacher certification:

1. Students must complete one semester of student teaching and seminar at the secondary level.
2. Students must submit the student teaching application (http://www.coe.wayne.edu) by the appropriate date:
   Term I (Fall Semester): December 1 of the preceding academic year
   Term II (Winter Semester): April 1 of the preceding academic year.
   An appointment with the coordinator of student teaching is required. Completed application forms MUST be submitted by the application period deadline in order to reserve a student teaching assignment.
3. Students must have a satisfactory health record and a TB test within three years prior to the time the assignment begins. Test results must be submitted with the application.
4. Students must have a current (within the last six months) statewide criminal history check (http://www.michigan.gov/ichat).
5. Students must meet the following qualifications:
   a. Completion of ninety-two credits in coursework (excluding courses with an 'I' — Incomplete mark).
   b. All major, minor, and professional education courses must have been completed with a grade of 'C' or better.
   c. A grade point average of at least 2.5 overall, as well as in the major (the major includes all professional courses).
   d. Completion of Michigan's Basic Skills Examination for Teacher Candidates: Currently, this requirement is met by scoring a 480 on the SAT Evidence-Based Reading and Writing test (taken March 2016 and thereafter) and a score of 530 on the SAT Math test (taken March 2016 and thereafter). SAT scores must be reported directly to Wayne State University. Make sure to select Wayne State (code 1898) when registering for the test as one of the institutions when you would like official scores sent. When requesting scores be sent to Wayne State after the test please contact SAT customer service at (866) 756-7346. A fee will be assessed for sending scores more than 9 days after the test is completed. Students that completed all or part of the Basic Skills Test, Professional Readiness Examination, ACT and/or Michigan Merit Exam (MME), should see an advisor.
   e. Successful completion of the Michigan Test for Teacher Certification (MTTC): major/minor tests
6. CPR and First Aid certification is required for placement and teacher certification.
7. Students must successfully complete the following courses:

Code	Title	Credits
BBE 5000	Multicultural Education in Urban America	2
BIO 1510	Basic Life Mechanisms	4
EDP 5480	Adolescent Psychology	2-3
EHP 3600	Introduction to the Philosophy of Education	3
HE 2310	Dynamics of Personal Health	3
HE 2320	Advancing Policy in Community Health Education	3
HE 3300	Health of the School Child	3
HE 3330	Methods in Teaching Health	3-4
HE 3500	Human Disease	3
HE 4340	Family and Reproductive Health	3
HE 5220	Health Behavior Change	3
HE 5440	Mental Health and Substance Abuse	3
HE 5620	Performance Based Assessment in Health Education	3
HE 5993	Writing Intensive Course in Health Education	0
HE 6430	School Health Curriculum	3
HE 5522	Health Psychology	3
LFA 2330	First Aid and CPR	3
RLL 6121	Teaching Reading in the Content Areas: Grades 6-12	3
SED 5010	Inclusive Teaching	2
TED 2250	Becoming an Urban Educator	3
TED 6020	Computer Applications in Teaching I	3

(An incomplete mark does not constitute satisfactory completion.)

Students who successfully complete all the College of Education and health education course requirements may apply for a Michigan Secondary Provisional Teaching Certificate then they apply for graduation. The Certificate qualifies the holder to teach health in grades 6 - 12; initial certification is provisional for a six-year period. (For further information, contact the College of Education.)

KHS Required Courses

Code	Title	Credits
Level 1		
HE 2310	Dynamics of Personal Health	3
HE 2320	Advancing Policy in Community Health Education	3
HE 3300	Health of the School Child	3
HE 3440	Nutrition and Health Education	3
or KHS 6540	Workshop in Kinesiology, Health and Sport Studies	

HE 3500	Human Disease	3
HE 4340	Family and Reproductive Health	3
HE 5220	Health Behavior Change	3
HE 5440	Mental Health and Substance Abuse	3
HE 5522	Health Psychology	3
LFA 2330	First Aid and CPR	3
Level 2		
HE 5620	Performance Based Assessment in Health Education	3
Total Credits		33

Professional Education Courses

Code	Title	Credits
Level 1		
BBE 5000	Multicultural Education in Urban America	2
EDP 5480	Adolescent Psychology	3
EHP 3600	Introduction to the Philosophy of Education	3
SED 5010	Inclusive Teaching	2
TED 2250	Becoming an Urban Educator	3
TED 6020	Computer Applications in Teaching I	3
Level 2		
HE 3330	Methods in Teaching Health	3
HE 5780	Directed Student Teaching	10
HE 6430	School Health Curriculum	3
RLL 6121	Teaching Reading in the Content Areas: Grades 6-12	3
Total Credits		35

Other Requirements:

Code	Title	Credits
Teaching Minor (Physical Education is the recommended teaching minor. Minors in other subjects may have difficulty obtaining employment).		20
General Education Courses		36
Total Credits		56

MINIMUM TOTAL CREDITS: 124

Community Health Concentration

Code	Title	Credits
HE 1010	Foundations of Health and Health Promotion	3
HE 2310	Dynamics of Personal Health	3
HE 2320	Advancing Policy in Community Health Education	3
HE 3440	Nutrition and Health Education [5]	3
or KHS 6540	Workshop in Kinesiology, Health and Sport Studies	
HE 3344	Methods and Materials in Community Health Education	3
HE 3500	Human Disease	3
HE 4340	Family and Reproductive Health	3
HE 4902	Health Education Internship	5-6
HE 5220	Health Behavior Change	3
HE 5440	Mental Health and Substance Abuse	3
HE 5993	Writing Intensive Course in Health Education	0
HE 6420	Introduction to Health Education Program Design	3
HE 6501	Measurement and Evaluation in Community Health Education	3
HE 5522	Health Psychology	3
LFA 2330	First Aid and CPR	3
Other Requirements		80
General Education		
Electives		
Total Credits		124-125

Health Education Minor

Health education plays an important role in the promotion of health and the prevention of disease. A minor in health education provides opportunities for involvement in school health education, as well as an introduction to a career as a health education professional in a clinical or community setting.

In the State of Michigan, a commitment has been made to a comprehensive health education curriculum, the Michigan Model. Promoted by the State departments of public health and education, the Michigan Model has been adopted by an increasing number of schools. The secondary minor in health education qualifies individuals for a health teaching endorsement in grades 6-12. The elementary minor qualifies individuals for a health teaching endorsement in grades 6-8. In addition, a minor in this field may be combined with nursing or other health science fields.

The requirements for a minor in Health Education include courses in six areas:

1. professional preparation;
2. physical health (classes need to be taken in a specific order);
3. mental health;
4. nutrition;
5. personal health; and
6. substance abuse.

Students must see an advisor in Health Education to file a Plan of Work prior to begin the minor.

Twenty-one credits are required for the completion of the Health Education minor, as follows:

Code	Title	Credits
Level 1		
HE 3300	Health of the School Child	3
HE 3440	Nutrition and Health Education [1]	3
or KHS 6540	Workshop in Kinesiology, Health and Sport Studies	
HE 4340	Family and Reproductive Health	3
HE 5440	Mental Health and Substance Abuse [2]	3
Level 2		
HE 3330	Methods in Teaching Health [3]	3
or HE 6500	Comprehensive School Health Education	
HE 5620	Performance Based Assessment in Health Education [5]	3
HE 6430	School Health Curriculum [6]	3
Total Credits		21

1 Prereq: HE 2310 or HE 3300

2 Prereq: HE 3440

3 Prereq: Completion of all Level 1 classes; Admission to the College of Education Level 2; fifteen credits in HE

4 Prereq: Completion of all Level 1 classes

[5] Prereq: fifteen credits in HE

[6] Prereq: HE 3300 or HE 6500

Kinesiology (B.S.)

The B.S. in Kinesiology is offered with two concentrations: 1) Exercise and Sport Science and 2) Physical Education or Physical Activity Leadership.

Exercise and Sport Science (ESS Concentration)

Admission Requirements: Undergraduate students entering Wayne State University, either from high school or transferring from other universities or colleges, are admitted directly into the bachelor's degree program.

Admission questions should be directed to the Division of Academic Services, College of Education, 489 Education, phone 313-577-1601.

Physical Education or Physical Activity Leadership (PE-PAL Concentration)

Admission Requirements: Undergraduate students entering Wayne State University, either from high school or transferring from other universities or colleges, are admitted directly into the College of Education/Level 1. General Education courses are taken concurrently with Kinesiology requirements. Students must apply for formal admission to the College of Education Level 2, Room 489 Education Building when they have completed fifty-three credits and must have met all the criteria listed below. Upon application, students should request admission into the Kinesiology major program.

1. Completion of fifty-three semester credits (includes twelve credits in the major).
2. A minimum cumulative grade point average of 2.50.
3. Completion of Intermediate Composition (IC).
4. Completion of KIN 5100, Anatomical and Physiological Bases of Physical (Cr. 3).
5. Completion of the College of Education mathematics requirement.
6. Completion of thirty-two credits of major Level 1 courses.
7. Physical Education (PE) students only: Completion of Michigan's Basic Skills Examination for Teacher Candidates: Currently, this requirement is met by scoring a 480 on the SAT Evidence-Based Reading and Writing test (taken March 2016 and thereafter) and a score of 530 on the SAT Math test (taken March 2016 and thereafter). SAT scores must be reported directly to Wayne State University. Make sure to select Wayne State (code 1898) when registering for the test as one of the institutions when you would like official scores sent. When requesting scores be sent to Wayne State after the test please contact SAT customer service at (866) 756-7346. A fee will be assessed for sending scores more than 9 days after the test is completed. Students that completed all or part of the Basic Skills Test, Professional Readiness Examination, ACT and/or Michigan Merit Exam (MME), should see an advisor.
8. Physical Education (PE) students only: A copy of a negative TB test (within the last three years).
9. Physical Education (PE) students only: Verification of forty hours of successful group work with children. The State defines a group as three or more children (not one's own) between the ages of three and eighteen. The group work experience needs to be recent (within the last five years) at the time of admission to Level 2.
10. A current (within the last six months) criminal history check (http://coe.wayne.edu/pdfs/criminial_history_new.pdf).
11. Up-to-date transcripts from each undergraduate school attended.
12. A signed Plan-of-Work between student and major advisor must be submitted with Level 2 application.
13. Once the above requirements are fulfilled, students must complete a Level 2 Application form to be submitted to the College of Education (available in Room 489, College of Education.
14. Students with complete applications will be invited to attend a mandatory College of Education Orientation, which is the final requirement for admission to Level 2.

A minimum of 120 credits are required for completion of this degree: satisfaction of the University General Education Program (p. 34); and the major requirements as required by each specific degree program (see below). Electives to complete the 120 credit requirement may be used in any area. All course work must be completed in accordance with the academic procedures of the College of Education (p. 84) and University (p. 9) governing undergraduate scholarship and degrees. All major, minor, and education courses, must be completed with grades of 'C' or better and an overall 2.5 grade point average, to meet College graduation requirements. Course changes may occur through periodic curriculum revision and students are urged to consult assigned advisors prior to each registration period to insure that all requirements are met.

Exercise and Sport Science (ESS) Concentration

The ESS concentration is designed to prepare students for professional fields or graduate studies in the broad field of exercise and sport science, with tailored specializations in exercise physiology, sport and exercise psychology, human development, biomechanics, applied anatomy, fitness evaluation and prescription, and basic health studies. This degree is a prerequisite to the necessary postgraduate study or additional certification requirements in this field.

Required Courses

Code	Title	Credits
HE 2310	Dynamics of Personal Health	3
HE 3440	Nutrition and Health Education	3
HE 3500	Human Disease	3
KIN 1991	Professional Perspectives in Kinesiology	3
KIN 3400	Lifespan Growth and Development	3
KIN 3540	Cultural Foundations of Kinesiology	3
KIN 3550	Motor Learning and Control	3
KIN 3580	Biomechanics	3
KIN 5350	Exercise Science Internship	4
KIN 5523	Physical Activity and Exercise Psychology	3
or KIN 5520	Sport Psychology	
KIN 6100	Methods of Group Exercise Instruction	2
or KIN 6120	Strength and Conditioning	
KIN 6300	Exercise Physiology I	3
KIN 6320	Fitness Assessment and Exercise Prescription	3
LFA 2330	First Aid and CPR	3
PHY 1020	Conceptual Physics: The Basic Science (or higher PHY course)	4
Total Credits		46

ESS ELECTIVES (twenty-one credits) with the consent of the advisor. Some courses have prerequisites. No more than four credits from Lifestyle Fitness Activity (LFA) courses can be used towards elective credits (LFA 1020 cannot be included). Students should consult their

advisor for further information and prior to registering for any elective courses not listed on the curriculum guide, plan of work, or in Degree Works.

Physical Education and Physical Activity Leadership (PE-PAL) Concentration

The PE-PAL concentration prepares students for the field of physical education as well as the expanding physical activity and exercise market. Specific goals of this program include: physical education and physical activity leadership skills needed to provide instruction from childhood into adulthood and across school and community-based settings; acquisition of skills in and knowledge of a variety of movement activities, including fundamental motor skills, sports, fitness, adventure, aquatic and rhythmic activities; the ability to apply knowledge about human movement acquired from its sub-disciplines to the teaching of kinesiology; the ability to analyze and evaluate individual human motor performance in a variety of age groups and skill levels; and the capacity to systematically evaluate one's own teaching performance and to plan, implement and manage effective instruction. Students may complete the degree program with or without teacher certification.

Required KHS Courses

Code	Title	Credits
Level 1		
KIN 5100	Anatomical and Physiological Bases of Physical Activity	3
KIN 5110	Motor Learning and Development	3
KIN 5200	Effective Teaching and Instructional Practices	3
KIN 5210	Movement Education	3
KIN 5220	Sports I	3
KIN 5240	Fitness Instruction	3
KIN Elective, select two of the following:		6
KIN 5230	Sports II	
KIN 5250	Adventure and Outdoor Pursuits	
KIN 5260	Aquatic Leadership	
Level 2		
KIN 5400	Adapted Physical Activity	3
KIN 5530	Technology and Assessment in Kinesiology	3
KIN 5600	Socio-cultural Issues in Physical Activity	3
Total Credits		33

Required Professional Courses

Code	Title	Credits
Level 1		3
EDP 3310	Educational Psychology	
Level 2 (select one of the following options)		13
Physical Activity Leadership Option		
KIN 5770	Physical Activity Leadership Internship	
KIN Electives Approved by Advisor		
Physical Education Teacher Certification Option		
KIN 5780	Student Teaching and Seminar	
RLL 6121	Teaching Reading in the Content Areas: Grades 6-12	
Total Credits		16

PE-PAL with Teacher Certification (Requirements)

The following requirements apply only to students completing the concentration for teacher certification:

1. Students must complete one semester of student teaching (elementary and secondary levels) with a seminar.
2. Students must submit student teaching applications for the Fall Semester by Dec. 1 of the previous year. Applications for student teaching are obtained from the academic advisor. An appointment with the coordinator of student teaching is also required.
3. Students must have a satisfactory health record and a tuberculosis test within six months before student teaching. A copy of the test results must be submitted with the application.
4. Students must meet the following conditions to qualify for student teaching:
   a. Ninety-two credits must be completed (incomplete grade credits will not count).
   b. 'C' or better grades must be earned in all major, minor, and professional education courses.
   c. A 2.5 grade point average overall and in the major is required.
   d. Successful completion of the Michigan Department of Education's Basic Skills Examination requirement.
   e. Successful completion of the Michigan Test for Teacher Certification (MTTC) Physical Education Test #44.
5. The following courses must be satisfactorily completed with a 'C' or higher grade. (An incomplete grade does not constitute satisfactory completion.):

Code	Title	Credits
EDP 3310	Educational Psychology	3
KIN 5100	Anatomical and Physiological Bases of Physical Activity	3
KIN 5110	Motor Learning and Development	3
KIN 5200	Effective Teaching and Instructional Practices	3
KIN 5210	Movement Education	3
KIN 5220	Sports I	3
KIN 5240	Fitness Instruction	3
KIN 5400	Adapted Physical Activity	3
KIN 5530	Technology and Assessment in Kinesiology	3
KIN 5600	Socio-cultural Issues in Physical Activity	3
RLL 6121	Teaching Reading in the Content Areas: Grades 6-12	3

6. CPR and First Aid certifications are required for student teaching.

Physical Education and Physical Activity Leadership Elementary Minor (Grades K-5)

Current or future teachers seeking to add physical education to their teaching certificate may do so through the Physical Education and Physical Activity Leadership (PE-PAL) minor. Students may complete this minor with any teaching major.

Students not involved in a teacher certification program may elect a PE-PAL minor only after consultation with a program advisor.

Code	Title	Credits
Level 1		
KIN 5100	Anatomical and Physiological Bases of Physical Activity	3

KIN 5110	Motor Learning and Development	3
KIN 5200	Effective Teaching and Instructional Practices	3
KIN 5210	Movement Education	3
KIN 5220	Sports I	3
KIN 5240	Fitness Instruction	3
KIN Elective, select one of the following:		3
KIN 5230	Sports II	
KIN 5250	Adventure and Outdoor Pursuits	
KIN 5260	Aquatic Leadership	
Level 2		
KIN 5400	Adapted Physical Activity	3
KIN 5530	Technology and Assessment in Kinesiology	3
Total Credits		27

Physical Education and Physical Activity Leadership Secondary Minor (Grades 6-12)

Current or future teachers seeking to add physical education to their teaching certificate may do so through the Physical Education and Physical Activity Leadership (PE-PAL) minor. Students may complete this minor with any teaching major.

Students not involved in a teacher certification program may elect a PE-PAL minor only after consultation with a program advisor.

Code	Title	Credits
Level 1		
KIN 5100	Anatomical and Physiological Bases of Physical Activity	3
KIN 5110	Motor Learning and Development	3
KIN 5200	Effective Teaching and Instructional Practices	3
KIN 5220	Sports I	3
KIN 5240	Fitness Instruction	3
KIN Elective, select one of the following:		3
KIN 5230	Sports II	
KIN 5250	Adventure and Outdoor Pursuits	
KIN 5260	Aquatic Leadership	
Level 2		
KIN 5400	Adapted Physical Activity	3
KIN 5530	Technology and Assessment in Kinesiology	3
KIN 5600	Socio-cultural Issues in Physical Activity	3
Total Credits		27

Sport Management (B.S.)

The major in sport management leads to a bachelor of science degree and prepares students for entry-level professional positions in the sport industry. Coursework includes industry-specific training in management, marketing, finance, law, governance and ethics. Students will additionally have the opportunity to select from a host of advanced courses that focus on specialized issues related to different segments of the sports industry, including collegiate, interscholastic, professional, and recreation. As a capstone experience, students will apply the knowledge they gained in the classroom to field experiences and internships to maximize their professional preparation. (For additional information, please see the KHS website (http://coe.wayne.edu/kinesiology).

Admission Requirements

Admission requirements for this program are satisfied by the general requirements for undergraduate admission (p. 22) to the University.

Candidates must complete 120 credits in course work including satisfaction of the University General Education Requirements (p. 34) , as well as the major requirements cited below. All course work must be completed in accordance with the regulations of the University (p. 11) and the College (p. 84) governing undergraduate scholarship and degrees.

Major Requirements

Code	Title	Credits
Required Courses		
SAM 2020	History of Sport	3
SAM 2100	Foundations of Sport Management	3
SAM 3010	Ethics in Sport	3
SAM 3020	Sociology of Sport	3
SAM 4030	Sport Finance	3
SAM 4020	Sport Governance	3
SAM 4040	Sport Communication	3
SAM 5000	Professional Practicum	3
SAM 5750	Internship in Sports Management	1-6
SAM 6570	Sports Marketing	3
KIN 5700	Sport Leadership	3
Select at least one of the following:		3
SAM 6531	Sports Event Management	
SAM 6560	Media Design and Communication	
Select at least one of the following		3
SAM 5510	Principles of Coaching	
SAM 6300	Interscholastic Athletic Directing	
SAM 6310	Collegiate Athletic Administration	
SAM 6320	Youth Sports and Recreation	
SAM 6530	Professional Sport Administration	
Elective Courses [1]		25
Total Credits		62-67

[1] Elective credits (a minimum of twenty-five credits) will be selected by the student in consultation with the advisor. No more than four credits from Lifestyle Fitness Activity (LFA) courses can be used towards elective credits. Students should consult their advisor for further information and prior to registering for any elective courses not listed on the curriculum guide or Plan of Work.

Sport Management Minor

The College of Education offers a minor in Sport Management for undergraduate students majoring in other disciplines. The minor provides an excellent opportunity for students to broaden their knowledge of the sport industry and the managerial practices unique to sports. In addition, the program enhances career prospects and establishes foundational knowledge for pursuing a Master of Arts in Sports Administration. To be eligible to apply for the minor, students must have a minimum cumulative grade point average of 2.5.

The Sport Management Minor consists of six courses, totaling eighteen credit hours. All course work must be completed in accordance with the academic procedures of the College of Education (p. 84) and University (p. 9) governing undergraduate scholarship and degrees. All major, minor, and education courses, must be completed with

grades of 'C' or better and an overall 2.5 grade point average, to meet College graduation requirements.

Code	Title	Credits
SAM 2100	Foundations of Sport Management	3
SAM 3020	Sociology of Sport	3
Select one of the following:		3
SAM 2020	History of Sport	
SAM 3010	Ethics in Sport	
SAM 4020	Sport Governance	
Electives: select at least 3 of the following		9
KIN 5700	Sport Leadership	
SAM 2020	History of Sport	
SAM 3010	Ethics in Sport	
SAM 4020	Sport Governance	
SAM 4030	Sport Finance	
SAM 4040	Sport Communication	
SAM 5000	Professional Practicum	
SAM 5510	Principles of Coaching	
SAM 6300	Interscholastic Athletic Directing	
SAM 6310	Collegiate Athletic Administration	
SAM 6320	Youth Sports and Recreation	
SAM 6530	Professional Sport Administration	
SAM 6531	Sports Event Management	
SAM 6560	Media Design and Communication	
SAM 6570	Sports Marketing	
SAM 6640	Legal Issues in Health, Physical Education and Recreation	
Total Credits		18

Teacher Education

Interim Assistant Deans: Thomas Edwards & Kathryn Roberts
Office: 241 Education Building; 313-577-0902
http://coe.wayne.edu/ted

Technology Expectations

The College of Education expects that each initial teacher certification candidate will own or have ready access to a computer (desktop, laptop, and/or mobile device). Throughout their academic program, teacher certification candidates will use a variety of technologies to develop their portfolios, to create multi-media projects to demonstrate knowledge, to create audio and video files, to communicate globally, and to participate in group projects using collaborative tools. Most importantly, however, by using a variety of technologies to progress successfully through their own academic programs, prospective teachers learn how to appropriately use technology as a tool to support teaching and learning, skills that are critical to effective teaching in 21st-century classrooms. At graduation, teacher candidates are expected to have technology skills that will facilitate and inspire student learning and creativity, enable development of digital age learning experiences and assessments, promote digital citizenship and responsibility, and use digital tools and resources to engage in professional growth and leadership. A teacher who possesses such innovative technology knowledge and skills for classroom application is an attractive employment candidate to any school district.

Michigan Standard Teaching Certificate (Education) - Bachelor's Degree Requirements

Candidates for the Bachelor of Arts or Bachelor of Science degree in Education must complete at least 120 credits in coursework with a minimum grade point average of 2.5. No grade below a 'C' may be used to meet requirements specific to elementary or secondary education, the major, the minor (including the planned program/comprehensive major), or professional education courses; a grade of 'C-minus' is not acceptable.

The following outline presents the general distribution of credits to be fulfilled by the student's choice of curricula from the subsequent program descriptions, below. NOTE: Some programs require more than 120 credits; note also the addendum cited below for the Bachelor of Arts degree.

1. Forty credits in pre-professional coursework including 6-8 credits in English to fulfill Basic and Intermediate Composition requirements and courses specified by individual program areas.
2. Completion of the appropriate professional education sequence.
3. Completion of teaching majors and teaching minors appropriate to the student's intended level of certification.
4. Three credits in personal health, first aid, health of the school child, or comprehensive school health education.
5. Completion of University General Education Requirements (see General Education Program).
6. Michigan Test for Teacher Certification (required for state certification):
   a. *Elementary Education:* Elementary Education Test. Examination in additional major/minor subject area(s) is also highly recommended.
   b. *Special Education (Cognitive Impairment)*: Elementary Education and Cognitive Impairment Tests.
   c. *Secondary Education:* Tests in major (required) and minor (recommended) subject areas.
7. Current certification in First Aid and Adult and Child CPR as verified by the Certification Office from a provider approved by the Michigan Department of Education (required for state certification).

BACHELOR OF ARTS in EDUCATION Language Requirement: In addition to the above requirements, the Bachelor of Arts degree requires completion of a foreign language through the intermediate level.

Career and Technical Education

Career and Technical Education (CTE) programs are offered in the following curricular areas:

- Secondary Standard Certification with a Vocational Certification in Business, Management, Marketing and Technology (BMMT).
- Vocational Certification Only in:
  - Aeronautics/Aviation/Aerospace Science & Technology
  - Airframe Technology
  - Automobile Technician (NATEF Certified)
  - Vocational Business - Business Administration Management & Operations
  - Child & Custodial Care Services
  - Collision Repair Technician (NATEF Certified)
  - Computer Programming/Programmer
  - Computer Systems Networking & Telecommunication
  - Construction Trades
  - Cooking & Related Culinary Arts

- Cosmetology
- Digital/Multimedia & Information Resources Design
- Drafting & Design Technology/Architectural
- Education General (Teacher Cadet)
- Family & Consumer Sciences
- Finance & Financial Management Services
- Graphics & Printing Technology & Communications
- Machine Tool Technology/Machinist
- Marketing, Sales, & Service
- Power Plant Technology (Aircraft)
- Public Safety/Protective Services
- Radio & TV Broadcasting Technology
- Small Engine & Related Equipment Repair
- System Administration/Administrator
- Allied Health Services
- Welding, Brazing, & Soldering
- Woodworking General

The requirement for Vocational Certification includes a minimum of 30 credit hours in related coursework in a post-secondary educational setting. These specializations are offered as majors in many community colleges and should be completed prior to admission to the College of Education. Requirements for the Vocational Certificate also include completion of the baccalaureate degree and candidates must document a minimum of two years (4,000 hours) of recent and relevant work experience (within the past six years) in a compensated, occupational setting that is closely related to the desired vocational certification area.

For the Admission Requirements to the program leading to Secondary Provisional Certification in BMMT: In addition to the regular admission procedures (see Admission: Level 2), each applicant must have a personal interview with a Career and Technical Education advisor and complete a Plan of Work. CREDIT BY EXAMINATION: Credit in some occupational areas may be earned through competency examinations. Consult the CTE Program Coordinator for further information.

For further information, consult a Career and Technical Education advisor in the College of Education.

Teaching Certificates (Michigan)

The Michigan Department of Education issues two basic teaching certificates: elementary and secondary. The elementary certificate authorizes an individual to teach all subjects in grades kindergarten through five, major and minor subject areas in grades six through eight, and all subjects in grades K-8 in a self-contained classroom. The secondary certificate authorizes an individual to teach his/her major and minor subject areas in grades six through twelve. Some majors such as art, kinesiology, and music cover all grades, kindergarten through twelve.

Teaching Certification Requirements

All secondary certificates require an academic major in a subject areas such as English, mathematics, science, or social studies, approved for teaching in grades six through twelve by the State Board of Education. A minor is recommended. An elementary certificate requires a minimum of one academic major or a student-centered minor or major and the Planned Program/Comprehensive Major.

Students are recommended for certification after earning a bachelor's degree from a regionally-accredited institution and completing a specified sequence of professional courses in the College of Education. Holders of a bachelor's degree may also earn a teaching certificate in a post-bachelor certification program or Master of Arts in Teaching program. Additional information about these programs can be obtained from the Office of Academic Services in room 489 Education.

Certification for Post-Baccalaureate Students

A college graduate holding the bachelor's or master's degree may qualify for a teaching certificate by completing a Master of Arts in Teaching degree program, or by completing a recognized post-degree program. See the Wayne State University Graduate Bulletin for general requirements for the Master of Arts in Teaching degree. The student may need to supplement previous degree work in order to satisfy major and minor provisions of the Michigan certification code.

Teaching Certificate Endorsements

Teaching endorsements may be added to any certificate. An individual may add endorsements by completing requirements for academic majors and/or minors in accordance with State regulations. An individual holding an elementary certificate may also earn an endorsement to teach at the secondary level, and vice versa. When adding an additional endorsement, the individual must also pass the Michigan Test for Teacher Certification in that subject area.

Holders of certificates may add an additional endorsement in a content area or in a specialty area. Content areas include English, Language Arts, Mathematics, Science, Social Studies, etcetera. Content endorsements are generally completed with undergraduate coursework in a post-bachelor status. Specialty areas are endorsements seen as more pedagogical or based upon a specific setting in which a subject is taught. A few examples of specialty endorsements are Special Education, Early Childhood Education, English as a Second Language and Bilingual-Bicultural Education. Many of the specialty endorsements are completed as part of a graduate program and may include only graduate coursework.

For more information regarding adding an endorsement, consult an advisor in the Division of Academic Services, 489 Education Building.

Application for an endorsement must be made within five years after endorsement requirements have been met. State examinations must be passed for all new endorsements.

Office of Clinical Experience (Teaching)

Director: Leah van Belle, Ph.D.
Office: 221 Education Building; 313-577-1644

Prerequisite requirements for student teaching eligibility are:

1. Admission to the College of Education.
2. Completion of course work in teaching major and minor(s) with grades of 'C' or better.
3. Passing of appropriate tests on the Michigan Test for Teacher Certification (MTTC).
4. Satisfactory completion of required courses in the professional education sequence with grades of 'C' or better.
5. Current negative tuberculosis test result.

NOTE: In addition to the above prerequisites, students completing certification requirements directly through the Michigan Department of Education or another university must complete a minimum of six semester credits in the Wayne State University College of Education prior to placement in a student teaching assignment.

Application Procedures

Submit completed application forms to the Office of Field Experience, 223 Education Building, prior to the deadline of the appropriate application period (see below).

Application Deadlines

Apply September 1 through December 1 for the following Fall semester.

Apply January 1 through April 1 for the following Winter semester.

Advising Offices

Information, written descriptions of programs, and referrals to advisors may be obtained from the following advising offices:

- Art Education, Room 163, Art Building
- Kinesiology, Room 260, Matthaei Building
- Music Education, 1321 Old Main
- All other programs, Room 489, Education Building

- Elementary Education (B.A.) (p. 98)
- Elementary Education (B.S.) (p. 116)
- Secondary Education (B.A.) (p. 104)
- Secondary Education (B.S.) (p. 123)
- Special Education (B.A.) (p. 115)
- Special Education (B.S.) (p. 132)
- Art Education, Visual (Post-Baccalaureate Certificate) (p. 98)

Art Education, Visual (Post-Baccalaureate Certificate)

The Visual Arts Education major for Post-Bachelor Certification requires thirty prerequisite course credits prior to admission to the program (usually taken during undergraduate studies in art), forty-four credits taken after admission to the College of Education, and six credits of Student Teaching. Potential students should make an appointment with the Program Coordinator, Dr. James Brown, to discuss program requirements by calling 313-577-0902.

Code	Title	Credits
Foundation Requirements (30 credit hours)		
ADR 1050	Drawing I	3
ADR 1060	Drawing II	3
AH 1110	Survey of Art History: Ancient through Medieval	3
AH 1120	Survey of Art History: Renaissance through Modern	3
ACO 1200	Surface Studio	3
ACO 1230	Space Studio	3
or ACO 1270	Time Studio	
ADR 2070	Beginning Life Drawing	3
ADR 3070	Intermediate Life Drawing	3
APA 2000	Oil Painting I	3
ASL 2150	Beginning Sculpture	3
Intermediate Requirements (6 credit hours)		
AED 5000	Introduction to Art Education	3
AED 5160	Theory and Practice in Art Education	3
Advanced Studio and Methodology Requirements (21 credit hours)		
AED 5020	Painting: Methods and Materials	3
AED 5890	The Art of Indigenous Cultures: Inclusion in the K-12 Curriculum	3
AED 5070	Methods and Materials of Sculptural Expression	3
AED 5280	Printmaking: Methods and Materials	3
AED 5690	Collage, Assemblage, and Multi-Media: Methods and Materials	3
AED 5150	Computer Graphics in the Classroom	3
AED 5230	Ceramics Education I	3
Professional Education Requirements (17 credit hours)		
The following courses must be completed prior to student teaching.		
AED 6910	Multicultural Issues in Visual Arts Education and Art Therapy	3
EDP 3310	Educational Psychology	3
SED 5010	Inclusive Teaching	2
RLL 6121	Teaching Reading in the Content Areas: Grades 6-12	3
AED 5100	Topics in Art Education	3
AED 5650	Art Teaching Laboratory (coreq: AED 5100)	3
Student Teaching Requirements (6 credit hours)		
Students must take and pass the Michigan Test for Teacher Certification (MTTC) Visual Arts Education Test #095 prior to student teaching.		
TED 5780	Directed Teaching and Conference (Half day field placement at the elementary or secondary level to meet State K-12 certification requirements)	2
TED 5790	Directed Teaching and Conference for Special Groups (Full day placement at the level you wish to teach full time: elementary or secondary)	4
Total Credits		80

Bachelor of Arts in Education - Elementary Education

Education (Elementary) Leading to K-8 Certification (Bachelor's Degree Programs)

The elementary certificate qualifies the holder to teach all subjects in kindergarten through grade five and all K-8 subjects in a self-contained classroom. Additionally, the major and minor subjects may be taught if the teacher has passed the MTTC subject test.

Admission: Level 1

Entry to the College of Education

All students intending to pursue a teaching curriculum who enter the University directly from high school, or transfer from other colleges are directly admitted by the University Admissions Office (p. 22) into the College of Education in Level 1 status.

Admission: Level 2

Entry to Professional Education Sequence

The standards listed below apply to those students entering the College of Education at Level 2: those working for a secondary or elementary school teaching certificate; those in a combined degree program; and those previously admitted at the freshman or sophomore level to the College of Education.

Eligibility for admission is based on the following criteria:

1. Satisfactory completion of fifty-three semester or eighty quarter credits of course work with an overall grade point average of 2.5 or above. In addition, the grade point average for any courses taken at Wayne State University must be 2.5 or above. This coursework should generally conform to the Level 1 courses prescribed by the

College for students who expect to prepare for teaching. The quality of work, especially in the major area, must indicate a strong potential for success in a teacher-education program.

2. Intermediate Composition Competency Requirement: All Education students must satisfactorily complete the University intermediate composition competency (p. 35) requirement prior to admission.
3. Physical Health: Definite standards of health must be met by all students entering the College. All students are required to present a negative tuberculosis (T.B.) test prior to admission.
4. Group Work Experience: All students must have verifiable successful group work (forty hours) experience with children.
5. Criminal History Check: All students must submit a current (within the last six months) statewide criminal history check (http://coe.wayne.edu/pdfs/criminial_history_new.pdf).
6. Elementary Education: Students seeking admission to Elementary Education must complete MAT 1110 and MAT 1120 or have appropriate prerequisite math course in progress.
7. Special Education: Students seeking admission to Special Education must have completed the following courses:

Code	Title	Credits
MAT 1110	Mathematics for Elementary School Teachers I (or have appropriate prerequisite math course in progress)	3
PSY 1010	Introductory Psychology	4
PSY 2400	Developmental Psychology	4
Select one of the following:		3-4
BIO 1030	Biology Today	
BIO 1050	An Introduction to Life	
BIO 1500	Basic Life Diversity	
BIO 1510	Basic Life Mechanisms	
SCE 5010	Biological Sciences for Elementary and Middle School Teachers	

8. Secondary Education: Students seeking admission to Secondary Education must have twelve-semester credits completed in the major
9. Specific Prerequisites or other special requirements of the curriculum area for which the student is applying.

Application for Level 2 Standing

Upon completion of a minimum of fifty-three-semester credits of college coursework and all other Level 2 admission requirements, students should apply for College of Education Level 2 standing. Applicants who have completed college work in institutions other than Wayne State must first apply for admission through the University Office of Admissions (p. 22).

Students who intend to receive degrees from other colleges in the University AND a teaching certificate from the College of Education must apply to the Combined Program through Academic Services, 489 Education Building. All applicants to Level 2 must attend an orientation session.

DEGREE REQUIREMENTS (K-5 all subjects, K-8 self-contained certification)

All students must complete the College Requirements and the Planned Program/Comprehensive Major as outlined below. Students have a choice of selecting a core major or a student-centered minor (i.e. Bilingual-Bicultural Education, Early Childhood, English as a Second Language). Some of the courses cited in the following curricula may satisfy the University General Education Requirements (p. 34) AND requirements in the major and minor. No grade below 'C' may be used to meet requirements specific to elementary education, the major, the minor (including the planned minor), or professional education courses; a grade of 'C-minus' is not acceptable.

Planned Program/Comprehensive Major

Code	Title	Credits
Children's Literature		
ELE 6200	Children's Literature for Teachers	
U.S. History		
HIS 2040	American Foundations to 1877	
HIS 2050	Modern America: Since 1877	
Michigan History		
HIS 2240	History of Michigan	
Biology		
Select one of the following:		
BIO 1030	Biology Today	
BIO 1050	An Introduction to Life	
BIO 1500	Basic Life Diversity	
BIO 1510	Basic Life Mechanisms	
SCE 5010	Biological Sciences for Elementary and Middle School Teachers	
Physical Science		
SCE 5020	Physical Sciences for Elementary and Middle School Teachers	
Earth/Space Science		
SCE 5030	Earth/Space Science for Elementary and Middle School Teachers	
Health and Physical Education		
KIN 5550	Health and Physical Education for the Elementary School Teacher	
Teacher Education		
TED 2250	Becoming an Urban Educator	
Level 2 Courses		
AED 5050	Integrating the Arts into the Elementary Classroom	
BBE 5000	Multicultural Education in Urban America	
EDP 3310	Educational Psychology	
ELE 6220	Literacy I	
ELE 6240	Literacy II	
ELE 6390	Mathematics Instruction: P-8	
ELE 6500	Science Curriculum: P-8	
ELE 6600	Social Studies Curriculum: P-8	
ELE 6070	Family, Community and School Partnerships: Supporting Children's Learning	
ELE 6260	Literacy III	
SED 5010	Inclusive Teaching	
TED 6020	Computer Applications in Teaching I	
Clinical Courses (Off-Campus) [1]		
The following courses must be taken prior to Pre-Student Teaching:		
ELE 6220	Literacy I	
Additional methods course (see advisor)		
Pre-Student Teaching		
TED 5150	Analysis of Elementary Teaching	
Final Clinical Experience		
TED 5780	Directed Teaching and Conference	
Elementary Student Teaching Experience [2]		
TED 5780	Directed Teaching and Conference	
Early Childhood Final Clinical Experience		

ELE 6080	Preprimary Goals and Practices
TED 5790	Directed Teaching and Conference for Special Groups

1 Courses listed below are taken in public schools in the Detroit metropolitan area. All of the courses in the professional sequence must be completed before entering TED 5780.

2 All students enrolling in the Early Childhood program must have a Major or Minor in Early Childhood and must complete two semesters of student teaching; for requirements see EARLY CHILDHOOD SPECIALIZATION (Minimum Twenty-four Credits)

Early Childhood General and Special Education Concentration (non-certification option)

This concentration enables students to qualify for positions in Early Childhood Education (ECE) as lead teachers in infant/toddler and preschool educational settings. Students will earn a Bachelor of Arts in Elementary Education with a concentration in Early Childhood General and Special Education. The program is designed for persons interested in working with young children birth-to-five years old and their families. The program is a minimum of 120 credit hours and the focus of the curriculum is on the growth and development of the young child including children who have developmental delays or disabilities, and the influence of family and society dynamics on the child's development and learning. The ECE curriculum includes the theories, principles, development, and evaluation of relationship-based learning and teaching in early childhood intervention and education settings; as well as assessment and teaching strategies, materials and equipment for physical, social, language/communication, emotional, and intellectual development for all young children. Support systems for children and their families are examined to promote healthy development and learning. A field experience is required.

Code	Title	Credits
General Education Courses (28-34 credit hours) (p. 34)		
Core Courses (23-28 credit hours)		
HIS 1000	World Civilization to 1500	
or HIS 1300	Europe and the World: 1500-1945	
or HIS 1400	The World Since 1945	
HIS 1300	Europe and the World: 1500-1945	
HIS 1400	The World Since 1945	
MAT 1110	Mathematics for Elementary School Teachers I	
MAT 1120	Mathematics for Elementary School Teachers II	
PSY 1010	Introductory Psychology	
or PSY 1020	Elements of Psychology	
PSY 1010	Introductory Psychology	
or PSY 1030	Introductory Psychology Laboratory	
TED 2250	Becoming an Urban Educator	
TED 5790	Directed Teaching and Conference for Special Groups	
Early Childhood Education Courses (30 credit hours)		
ELE 6070	Family, Community and School Partnerships: Supporting Children's Learning	
ELE 6050	Infant and Toddler Development to Inform Relationship-Based Curricula and Interventions	
ELE 6010	Family Centered Collaboration in Early Childhood Intervention and Special Education	
ELE 6020	Seminar in Early Childhood	
ELE 6040	Role of Content Areas in Early Childhood Education	
ELE 6080	Preprimary Goals and Practices	
ELE 6090	Introduction to Infant Mental Health Theory and Practice	
ELE 6100	Planning and Implementing Preschool Curriculum	
ELE 6340	Teaching Reading in Early Childhood Education	
SED 6040	Introduction to Early Childhood Special Education	
Electives		
Must be approved by Faculty Advisor (as needed to reach the minimum of 120 credit hours for the degree)		
BBE 5000	Multicultural Education in Urban America	
BIO 1030	Biology Today	
or BIO 1050	An Introduction to Life	
or BIO 1510	Basic Life Mechanisms	
ELE 6200	Children's Literature for Teachers	
ELE 6260	Literacy III	
HIS 2040	American Foundations to 1877	
HIS 2050	Modern America: Since 1877	
HIS 2240	History of Michigan	
PSY 3430	Infant Development	
PSY 3440	Psychology of Child Behavior and Development	
SCE 5010	Biological Sciences for Elementary and Middle School Teachers	
SED 5010	Inclusive Teaching	
KIN 5550	Health and Physical Education for the Elementary School Teacher	

Arabic K-12: Teaching Major

(Minimum 45 credit hours)

Students must score the Intermediate High Level in Arabic, as measured by the Oral Proficiency Interview (OPI) from the American Council on the Teaching of Foreign Languages (ACTFL).

Code	Title	Credits
Content Area Requirements		
ARB 3110	Advanced Arabic I	3
ARB 3120	Advanced Arabic II	3
ARB 3210	Spoken Arabic	3
ARB/NE 5230	Structure of Arabic	3
ARB 5140	Modern Arabic Literature in Arabic and English	3
ARB 5010	Medieval Arabic Texts	3
ARB 5020	Media Arabic	3
ARB 5240	Quranic Arabic	3
NE 3040/ HIS 3320	Twentieth Century Middle East	3
NE/ANT 3550	Arab Society in Transition	3
Methodology Requirements		
LED 6500	Teaching World Languages in Elementary and Middle Schools: Methods III	3
LED 6520	Teaching English as a Second Language/Foreign Language: Methods I	3
LED 6530	Teaching English as a Second Language/Foreign Language: Methods II	3
Additional Requirements		
EDP 5480	Adolescent Psychology	3

RLL 6700	Second Language Literacy Development: K-12	3
Total Credits		45

Arabic: Teaching Major

(Minimum 33 credit hours)

Students must score the Intermediate High Level in Arabic, as measured by the Oral Proficiency Interview (OPI) from the American Council on the Teaching of Foreign Languages (ACTFL).

Code	Title	Credits
Content Area Requirements		
ARB 3110	Advanced Arabic I	3
ARB 3120	Advanced Arabic II	3
ARB 3210	Spoken Arabic	3
ARB/NE 5230	Structure of Arabic	3
ARB 5140	Modern Arabic Literature in Arabic and English	3
ARB 5010	Medieval Arabic Texts	3
ARB 5020	Media Arabic	3
NE 3040/ HIS 3320	Twentieth Century Middle East	3
NE/ANT 3550	Arab Society in Transition	3
Methodology Requirements		
LED 6500	Teaching World Languages in Elementary and Middle Schools: Methods III	3
LED 6520	Teaching English as a Second Language/Foreign Language: Methods I	3
Total Credits		33

Early Childhood Education: Teaching Major

(Minimum 33 credit hours)

Code	Title	Credits
ELE 6010	Family Centered Collaboration in Early Childhood Intervention and Special Education	3
or ELE 6060	Community Contacts: Working with Families in Urban Settings	
ELE 6020	Seminar in Early Childhood	3
ELE 6040	Role of Content Areas in Early Childhood Education	3
ELE 6050	Infant and Toddler Development to Inform Relationship-Based Curricula and Interventions	3
ELE 6070	Family, Community and School Partnerships: Supporting Children's Learning	3
ELE 6080	Preprimary Goals and Practices	3
ELE 6090	Introduction to Infant Mental Health Theory and Practice	3
ELE 6100	Planning and Implementing Preschool Curriculum	3
ELE 6200	Children's Literature for Teachers	3
ELE 6340	Teaching Reading in Early Childhood Education	3
SED 6040	Introduction to Early Childhood Special Education	3
Total Credits		33

French K-12: Teaching Major

(Minimum 45 credit hours)

Students must score at the Advanced Low Level in French, as measured by the Oral Proficiency Interview (OPI) from the American Council on the Teaching of Foreign Languages (ACTFL)

French: Teaching Major

(Minimum 36 credit hours)

Students must score at the Advanced Low Level in French, as measured by the Oral Proficiency Interview (OPI) from the American Council on the Teaching of Foreign Languages (ACTFL)

Integrated Science: Teaching Major

Code	Title	Credits
AST 2010	Descriptive Astronomy	4
AST 2011	Descriptive Astronomy Laboratory	1
BIO 1500	Basic Life Diversity	4
CHM 1000	Chemistry and Your World	4
CHM 1020	Survey of General Chemistry	4
GEL 1010	Geology: The Science of the Earth	3
GEL 1011	Geology: The Science of the Earth Laboratory	1
PHY 1020	Conceptual Physics: The Basic Science	4
SCE 5010	Biological Sciences for Elementary and Middle School Teachers	3
SCE 5020	Physical Sciences for Elementary and Middle School Teachers	3
SCE 5030	Earth/Space Science for Elementary and Middle School Teachers	3
SCE 6010	Safety in the Science Classroom	2
Total Credits		36

Language Arts: Teaching Major

(Minimum 36 credit hours)

Code	Title	Credits
COM 1500	Survey of Mass Communication	3
EED 6210	Language, Literacy, and Learning	3
EED 6310	Young Adult Literature	3
ELE 6200	Children's Literature for Teachers	3
Select one of the following:		3
ENG 2390	Introduction to African-American Literature: Literature and Writing	
ENG 3470	Survey of African-American Literature	
ENG 5480	Topics in African American Literature	
ENG 3800	Introduction to Creative Writing	3
ENG 3010	Intermediate Writing	3
ENG 3110	English Literature to 1700	3
ENG 3120	English Literature after 1700	3
ENG 3130	American Literature to 1865	3
or ENG 3140	American Literature after 1865	
ENG 3700	Structure of English	3
Additional Coursework		3
Total Credits		36

Mathematics: Teaching Major

(Minimum 32 credit hours)

Code	Title	Credits
MAE 5100/ MAT 5180	Geometry for Middle School Teachers	3
MAE 5110/ MAT 5190	Number Theory for Middle School Teachers	3
MAE/MAT 5120	Abstract Algebra for Middle School Teachers	3
MAE 5130	Problem Solving for Middle School Teachers	3
MAT 1110	Mathematics for Elementary School Teachers I	3
MAT 1120	Mathematics for Elementary School Teachers II	3
MAT 1800	Elementary Functions	4
MAT 2010	Calculus I	4
MAT 2860	Discrete Mathematics	3
STA 1020	Elementary Statistics	3-4
or STA 2210	Probability and Statistics	
Total Credits		32-33

Social Studies: Teaching Major

(Minimum 38 credit hours)

Code	Title	Credits
ECO 2010	Principles of Microeconomics	4
ECO 2020	Principles of Macroeconomics	4
GPH 1100	World Regional Patterns	4
GPH 2200	Geography of Michigan	3
HIS 1000	World Civilization to 1500	4
HIS 2040	American Foundations to 1877	3-4
HIS 2050	Modern America: Since 1877	3-4
PS 1010	American Government	3-4
or PS 1030	The American Governmental System	
PS 3070	Michigan Politics	4
SSE 5720	Social Studies Disciplines for Elementary Teachers	3
SSE 6720	Teaching the Interdisciplinary Knowledge of Social Studies	3
Total Credits		38-41

Spanish K-12: Teaching Major

(Minimum 45 credit hours)

Students must score at the Advanced Low Level in Spanish, as measured by the Oral Proficiency Interview (OPI) from the American Council on the Teaching of Foreign Languages (ACTFL)

Code	Title	Credits
Content Area Requirements		
SPA 3025	Cultural Connections, Grammar and Composition II	3
SPA 3200	Conversation	3
SPA 3300	Introduction to Cultural and Literary Analysis	3
SPA 4610	Introduction to Early Modern Spanish Literature	3
or SPA 4620	Introduction to Modern and Contemporary Spanish Literature	
SPA 4630	Introduction to Colonial Latin American Literature	3
or SPA 4640	Introduction to Modern and Contemporary Latin American Literature	
SPA 5100	Advanced Composition	3
SPA 5200	Spanish Phonetics	3
Select one of the following:		3
SPA 5550	Spanish Culture and Its Tradition	
SPA 5560	Spanish American Cultures and their Traditions	
SPA 5570	Topics in Hispanic Culture or Language	
SPA 6400	Introduction to Hispanic Linguistics	3
SPA 6560	Cervantes	3
or SPA 6620	Latin American Novel in the 20th and 21st Centuries	
Methodology Requirements		
LED 6500	Teaching World Languages in Elementary and Middle Schools: Methods III	3
LED 6520	Teaching English as a Second Language/Foreign Language: Methods I	3
LED 6530	Teaching English as a Second Language/Foreign Language: Methods II	3
Additional Requirements		
EDP 5480	Adolescent Psychology	3
RLL 6700	Second Language Literacy Development: K-12	3
Total Credits		45

Spanish: Teaching Major

(Minimum 36 credit hours)

Students must score at the Advanced Low Level in Spanish, as measured by the Oral Proficiency Interview (OPI) from the American Council on the Teaching of Foreign Languages (ACTFL)

Code	Title	Credits
Content Area Requirements		
SPA 3025	Cultural Connections, Grammar and Composition II	3
SPA 3200	Conversation	3
SPA 3300	Introduction to Cultural and Literary Analysis	3
SPA 4610	Introduction to Early Modern Spanish Literature	3
or SPA 4620	Introduction to Modern and Contemporary Spanish Literature	
SPA 4630	Introduction to Colonial Latin American Literature	3
or SPA 4640	Introduction to Modern and Contemporary Latin American Literature	
SPA 5100	Advanced Composition	3
SPA 5200	Spanish Phonetics	3
Select one of the following:		3
SPA 5550	Spanish Culture and Its Tradition	
SPA 5560	Spanish American Cultures and their Traditions	
SPA 5570	Topics in Hispanic Culture or Language	
SPA 6400	Introduction to Hispanic Linguistics	3
SPA 6560	Cervantes	3
or SPA 6620	Latin American Novel in the 20th and 21st Centuries	
Methodology Requirements		
LED 6500	Teaching World Languages in Elementary and Middle Schools: Methods III	3
LED 6520	Teaching English as a Second Language/Foreign Language: Methods I	3
Total Credits		36

Arabic: Teaching Minor

(Minimum 27 credit hours)

Students must score the Intermediate High Level in Arabic, as measured by the Oral Proficiency Interview (OPI) from the American Council on the Teaching of Foreign Languages (ACTFL).

Code	Title	Credits
Content Area Requirements		
ARB 3110	Advanced Arabic I	3
ARB 3120	Advanced Arabic II	3
ARB 3210	Spoken Arabic	3
ARB/NE 5230	Structure of Arabic	3
ARB 5140	Modern Arabic Literature in Arabic and English	3
NE 3040/ HIS 3320	Twentieth Century Middle East	3
NE/ANT 3550	Arab Society in Transition	3
Methodology Requirements		
LED 6500	Teaching World Languages in Elementary and Middle Schools: Methods III	3
LED 6520	Teaching English as a Second Language/Foreign Language: Methods I	3
Total Credits		27

Bilingual-Bicultural Education: Teaching Minor

(Minimum 23 credit hours)

Students must demonstrate superior proficiency (speaking, reading, and writing) in a non-English language as measured by the Oral Proficiency Interview (OPI) and Writing Proficiency Test (WPT) from the American Council on the Teaching of Foreign Languages. (ACTFL).

Code	Title	Credits
BBE 5000	Multicultural Education in Urban America	2
BBE 5500	Introduction to Bilingual/Bicultural Education	3
BBE 6560	Teaching Methods in Bilingual/Bicultural Education	3
BBE 6850	Applied Linguistics: Issues in Bilingual Education	3
BBE 6590	Culture and Language in Bilingual/Bicultural Education	3
LED 6520	Teaching English as a Second Language/Foreign Language: Methods I	3
LED 6555	Integration of Language and Content in Language Teaching	3
RLL 6700	Second Language Literacy Development: K-12	3
Total Credits		23

Note: An internship in Bilingual/Bicultural Teaching (BBE 6600) may be required. Students should consult their advisor for more information.

Early Childhood Education: Teaching Minor

(Minimum 24 credit hours)

Code	Title	Credits
ELE 6020	Seminar in Early Childhood	3
ELE 6040	Role of Content Areas in Early Childhood Education	3
ELE 6050	Infant and Toddler Development to Inform Relationship-Based Curricula and Interventions	3
ELE 6070	Family, Community and School Partnerships: Supporting Children's Learning	3
ELE 6080	Preprimary Goals and Practices	3
ELE 6200	Children's Literature for Teachers	3
ELE 6340	Teaching Reading in Early Childhood Education	3
SED 6040	Introduction to Early Childhood Special Education	3
Total Credits		24

English as a Second Language (ESL): Teaching Minor

(Minimum 23 credits hours)

A major or minor in Language Arts is strongly recommended with an ESL Minor.

Code	Title	Credits
BBE 5000	Multicultural Education in Urban America	2
BBE 6850	Applied Linguistics: Issues in Bilingual Education	3
LED 6510	Second Language Acquisition and the Teaching of Grammar	3
LED 6520	Teaching English as a Second Language/Foreign Language: Methods I	3
LED 6555	Integration of Language and Content in Language Teaching	3
LED 6565	Assessment in Language Teaching	3
LED 6580	Culture as the Basis for Language Teaching	3
RLL 6700	Second Language Literacy Development: K-12	3
Total Credits		23

Note: An internship in Bilingual/Bicultural Teaching (BBE 6600) may be required. Students should consult their advisor for more information.

French: Teaching Minor

(Minimum 27 credit hours)

Students must score at the Advanced Low Level in French, as measured by the Oral Proficiency Interview (OPI) from the American Council on the Teaching of Foreign Languages (ACTFL)

Health: Teaching Minor

(Minimum 21 credit hours)

Code	Title	Credits
HE 3300	Health of the School Child	3
HE 3330	Methods in Teaching Health	3
HE 3440	Nutrition and Health Education	3
or KHS 6540	Workshop in Kinesiology, Health and Sport Studies	
HE 4340	Family and Reproductive Health	3
HE 5440	Mental Health and Substance Abuse	3
HE 5620	Performance Based Assessment in Health Education	3
HE 6430	School Health Curriculum	3
Total Credits		21

Integrated Science: Teaching Minor

(Minimum 29 credit hours)

Code	Title	Credits
AST 2010	Descriptive Astronomy	4
AST 2011	Descriptive Astronomy Laboratory	1
BIO 1050	An Introduction to Life	4
CHM 1000	Chemistry and Your World	4
GEL 1010	Geology: The Science of the Earth	3

GEL 1011	Geology: The Science of the Earth Laboratory	1
PHY 1020	Conceptual Physics: The Basic Science	4
SCE 5010	Biological Sciences for Elementary and Middle School Teachers	3
SCE 5020	Physical Sciences for Elementary and Middle School Teachers	3
SCE 6010	Safety in the Science Classroom	2
Total Credits		29

Language Arts: Teaching Minor

(Minimum 24 credit hours)

Code	Title	Credits
COM 1500	Survey of Mass Communication	3
EED 6210	Language, Literacy, and Learning	3
ELE 6200	Children's Literature for Teachers	3
Select one of the following:		3
ENG 2390	Introduction to African-American Literature: Literature and Writing	
ENG 3470	Survey of African-American Literature	
ENG 5480	Topics in African American Literature	
ENG 3800	Introduction to Creative Writing	3
ENG 3010	Intermediate Writing	3
ENG 3130	American Literature to 1865	3
or ENG 3140	American Literature after 1865	
Additional Coursework		3
Total Credits		24

Mathematics: Teaching Minor

(Minimum 23 credit hours)

Code	Title	Credits
MAE 5100/ MAT 5180	Geometry for Middle School Teachers	3
MAE 5110/ MAT 5190	Number Theory for Middle School Teachers	3
MAE/MAT 5120	Abstract Algebra for Middle School Teachers	3
MAT 1110	Mathematics for Elementary School Teachers I	3
MAT 1120	Mathematics for Elementary School Teachers II	3
MAT 1800	Elementary Functions	4
MAT 2010	Calculus I	4
Total Credits		23

Physical Education: Teaching Minor

(Minimum 27 credit hours)

Code	Title	Credits
KIN 5100	Anatomical and Physiological Bases of Physical Activity	3
KIN 5110	Motor Learning and Development	3
KIN 5200	Effective Teaching and Instructional Practices	3
KIN 5210	Movement Education	3
KIN 5220	Sports I	3
Select one of the following:		3
KIN 5230	Sports II	
KIN 5250	Adventure and Outdoor Pursuits	
KIN 5260	Aquatic Leadership	
KIN 5240	Fitness Instruction	3
KIN 5400	Adapted Physical Activity	3
KIN 5530	Technology and Assessment in Kinesiology	3
Total Credits		27

Spanish: Teaching Minor

(Minimum 27 credit hours)

Students must score at the Advanced Low Level in Spanish, as measured by the Oral Proficiency Interview (OPI) from the American Council on the Teaching of Foreign Languages (ACTFL)

Code	Title	Credits
Content Area Requirements		
SPA 3025	Cultural Connections, Grammar and Composition II	3
SPA 3200	Conversation	3
SPA 3300	Introduction to Cultural and Literary Analysis	3
SPA 4610	Introduction to Early Modern Spanish Literature	3
or SPA 4620	Introduction to Modern and Contemporary Spanish Literature	
SPA 4630	Introduction to Colonial Latin American Literature	3
or SPA 4640	Introduction to Modern and Contemporary Latin American Literature	
SPA 5100	Advanced Composition	3
SPA 5200	Spanish Phonetics	3
Methodology Requirements		
LED 6500	Teaching World Languages in Elementary and Middle Schools: Methods III	3
LED 6520	Teaching English as a Second Language/Foreign Language: Methods I	3
Total Credits		27

Bachelor of Arts in Education - Secondary Education

Education (Secondary) Leading to Grades 6 - 12 Certification (Bachelor's Degree Programs)

The secondary education curriculum leads to a bachelor's degree in education and secondary school teaching certification in the major and minor areas listed below. Whereas this degree is granted by the College of Education, students also have the option of earning secondary school certification in conjunction with a bachelor's degree from the College of Fine, Performing and Communication Arts or the College of Liberal Arts and Sciences. For information regarding these combined degree programs, see an advisor. No grade below 'C' may be used to meet requirements specific to secondary education, the major, the minor (including the planned minor), or professional education courses; a grade of 'C-minus' is not acceptable.

All students must complete the College Requirements, Level 2 Education Requirements and a major area of study, as outlined below. Students may also complete the requirements for a minor area of study.

Admission: Level 1

Entry to the College of Education

All students intending to pursue a teaching curriculum who enter the University directly from high school, or transfer from other colleges are

directly admitted by the University Admissions Office (p. 22) into the College of Education in Level 1 status.

Admission: Level 2

Entry to Professional Education Sequence

The standards listed below apply to those students entering the College of Education at Level 2: those working for a secondary or elementary school teaching certificate; those in a combined degree program; and those previously admitted at the freshman or sophomore level to the College of Education.

Eligibility for admission is based on the following criteria:

1. Satisfactory completion of fifty-three semester or eighty quarter credits of course work with an overall grade point average of 2.5 or above. In addition, the grade point average for any courses taken at Wayne State University must be 2.5 or above. This coursework should generally conform to the Level 1 courses prescribed by the College for students who expect to prepare for teaching. The quality of work, especially in the major area, must indicate a strong potential for success in a teacher-education program.
2. Intermediate Composition Competency Requirement: All Education students must satisfactorily complete the University intermediate composition competency (p. 35) requirement prior to admission.
3. Physical Health: Definite standards of health must be met by all students entering the College. All students are required to present a negative tuberculosis (T.B.) test prior to admission.
4. Group Work Experience: All students must have verifiable successful group work (forty hours) experience with children.
5. Criminal History Check: All students must submit a current (within the last six months) statewide criminal history check (http://coe.wayne.edu/pdfs/criminial_history_new.pdf).
6. Elementary Education: Students seeking admission to Elementary Education must complete MAT 1110 and MAT 1120 or have appropriate prerequisite math course in progress.
7. Special Education: Students seeking admission to Special Education must have completed the following courses:

Code	Title	Credits
MAT 1110	Mathematics for Elementary School Teachers I (or have appropriate prerequisite math course in progress)	3
PSY 1010	Introductory Psychology	4
PSY 2400	Developmental Psychology	4
Select one of the following:		3-4
BIO 1030	Biology Today	
BIO 1050	An Introduction to Life	
BIO 1500	Basic Life Diversity	
BIO 1510	Basic Life Mechanisms	
SCE 5010	Biological Sciences for Elementary and Middle School Teachers	

8. Secondary Education: Students seeking admission to Secondary Education must have twelve-semester credits completed in the major
9. Specific Prerequisites or other special requirements of the curriculum area for which the student is applying.

Application for Level 2 Standing

Upon completion of a minimum of fifty-three-semester credits of college coursework and all other Level 2 admission requirements, students should apply for College of Education Level 2 standing. Applicants who have completed college work in institutions other than Wayne State must first apply for admission through the University Office of Admissions (p. 22).

Students who intend to receive degrees from other colleges in the University AND a teaching certificate from the College of Education must apply to the Combined Program through Academic Services, 489 Education Building. All applicants to Level 2 must attend an orientation session.

Level 1 Requirements

The following courses and course options are required of all students seeking secondary (grades 6-12) certification regardless of selection of major or minor studies. Some of these courses may also satisfy the University General Education Requirements (p. 34).

College Requirements

Code	Title	Credits
American Society and Institutions (AI)		
PS 1010	American Government [1]	
or PS 1030	The American Governmental System	
Critical Thinking Competency (CT)		
Foreign Culture (FC)		
Historical Studies (HS)		
Life Sciences (LS) (select two of the following)		
PSY 1010	Introductory Psychology	
or PSY 1020	Elements of Psychology	
BIO 1030	Biology Today	
or BIO 1050	An Introduction to Life	
or BIO 1510	Basic Life Mechanisms	
Oral Communication (OC)		
Philosophy and Letters (PL)		
Physical Sciences (PS)		
Social Sciences (SS)		
Visual and Performing Arts (VP)		
Written Communication (Two Courses)		
lBasic Composition (BC)		
Intermediate Composition (IC)		
Secondary Education Requirements (select one of the following)		
HE 2310	Dynamics of Personal Health	
HE 3300	Health of the School Child	
HE 6500	Comprehensive School Health Education	
LFA 2330	First Aid and CPR	
TED 2250	Becoming an Urban Educator	

[1] PS 1030 required for Social Studies majors

Level 2 Education Requirements (Grades 6-12 Certification)

Code	Title	Credits
The following courses are required of all students seeking secondary (grades 6-12) certification. The selection of courses to fulfill the methods requirements is predicated on the student's choice of major/minor.		
The following courses may be taken in Level 1 or 2:		
BBE 5000	Multicultural Education in Urban America	
SED 5010	Inclusive Teaching	
TED 6020	Computer Applications in Teaching I	
The following courses may be elected at any time after admission to Level 2 and must be completed prior to TED 5780:		

EHP 3600	Introduction to the Philosophy of Education	
EDP 5480	Adolescent Psychology	
RLL 6121	Teaching Reading in the Content Areas: Grades 6-12	
TED 5650	Pre-Student Teaching Field Experience for Secondary Majors	
Teaching methods in the major (two courses)		6
Teaching methods in the minor (one course)		3
The Teaching Major and Teaching Minor and the Michigan Test for Teacher Certification (MTTC) subject area tests must be completed prior to student teaching.		
Final clinical experience		
TED 5780	Directed Teaching and Conference	

Arabic K-12: Teaching Major

(Minimum 45 credit hours)

Students must score the Intermediate High Level in Arabic, as measured by the Oral Proficiency Interview (OPI) from the American Council on the Teaching of Foreign Languages (ACTFL).

Code	Title	Credits
Content Area Requirements		
ARB 3110	Advanced Arabic I	3
ARB 3120	Advanced Arabic II	3
ARB 3210	Spoken Arabic	3
ARB/NE 5230	Structure of Arabic	3
ARB 5140	Modern Arabic Literature in Arabic and English	3
ARB 5010	Medieval Arabic Texts	3
ARB 5020	Media Arabic	3
ARB 5240	Quranic Arabic	3
NE 3040/ HIS 3320	Twentieth Century Middle East	3
NE/ANT 3550	Arab Society in Transition	3
Methodology Requirements		
LED 6500	Teaching World Languages in Elementary and Middle Schools: Methods III	3
LED 6520	Teaching English as a Second Language/Foreign Language: Methods I	3
LED 6530	Teaching English as a Second Language/Foreign Language: Methods II	3
Additional Requirements		
EDP 5480	Adolescent Psychology	3
RLL 6700	Second Language Literacy Development: K-12	3
Total Credits		45

Arabic: Teaching Major

(Minimum 33 credit hours)

Students must score the Intermediate High Level in Arabic, as measured by the Oral Proficiency Interview (OPI) from the American Council on the Teaching of Foreign Languages (ACTFL).

Code	Title	Credits
Content Area Requirements		
ARB 3110	Advanced Arabic I	3
ARB 3120	Advanced Arabic II	3
ARB 3210	Spoken Arabic	3
ARB/NE 5230	Structure of Arabic	3
ARB 5140	Modern Arabic Literature in Arabic and English	3
ARB 5010	Medieval Arabic Texts	3
ARB 5020	Media Arabic	3
NE 3040/ HIS 3320	Twentieth Century Middle East	3
NE/ANT 3550	Arab Society in Transition	3
Methodology Requirements		
LED 6500	Teaching World Languages in Elementary and Middle Schools: Methods III	3
LED 6520	Teaching English as a Second Language/Foreign Language: Methods I	3
Total Credits		33

Biology: Teaching Major

Code	Title	Credits
Content Area Requirements		
BIO 1500	Basic Life Diversity	4
BIO 1510	Basic Life Mechanisms	4
BIO 2200	Introductory Microbiology	5
BIO 2600	Introduction to Cell Biology	3
BIO 2870	Anatomy and Physiology	5
BIO 3070	Genetics	4
BIO 3500	Ecology and the Environment	3
BIO 4200	Evolution	3
Additional Science Requirements		
CHM 1220	General Chemistry I	4
CHM 1230	General Chemistry I Laboratory	1
CHM 6740	Laboratory Safety	2
or SCE 6010	Safety in the Science Classroom	
GEL 1010	Geology: The Science of the Earth	3
GEL 1011	Geology: The Science of the Earth Laboratory	1
PHY 2130	Physics for the Life Sciences I	4
PHY 2131	Physics for the Life Sciences Laboratory	1
Science Elective(s)		5
Additional Mathematics Requirements		
MAT 2010	Calculus I	4
STA 2210	Probability and Statistics	4
Methodology Requirements		
SCE 5060	Methods and Materials of Instruction in Secondary School Science I	3
SCE 5070	Methods and Materials of Instruction in Secondary School Science II	3
Total Credits		66

Business, Management, Marketing and Technology (Comprehensive): Teaching Major

(Minimum 60 credit hours)

Code	Title	Credits
Content Area Requirements		
ACC 3010	Introduction to Financial Accounting	3
ACC 3020	Introduction to Managerial Accounting	3
BLW 2510	Business Law I	3
COM 3300	Business and Professional Presentations	3

ECO 2010	Principles of Microeconomics	3
ECO 2020	Principles of Macroeconomics	3
FIN 3050	Personal Financial Planning	3
ISM 5994	Software Tools for Business Applications	3
MAT 1500	College Algebra for the Social and Management Sciences	3
MGT 2530	Management of Organizational Behavior	3
MGT 5650	The Entrepreneur and Venture Creation	3
MKT 2300	Marketing Management	3
MKT 5450	Consumer Behavior	3
MKT 5490	Principles of Advertising	3
MKT 5850	Integrated Marketing Communications Strategy	3
CSC 1000	Introduction to Computer Science	3
GSC 3600	Operations and Supply Chain Management	3
MGT 5700	Human Resource Management	3
Methodology Requirements		
CTE 5501	Instructional Practices for the Teacher Cadet Classroom - Module 1	1
CTE 5502	Instructional Practices for the Teacher Cadet Classroom - Module 2	1
CTE 5503	Instructional Practices for the Teacher Cadet Classroom - Module 3	1
CTE 5504	Instructional Practices for the Teacher Cadet Classroom - Module 4	1
CTE 5505	Instructional Practices for the Teacher Cadet Classroom - Module 5	1
CTE 5506	Instructional Practices for the Teacher Cadet Classroom - Module 6	1
Total Credits		60

Business, Management, Marketing and Technology (Group): Teaching Major

(Minimum 48 credit hours)

Code	Title	Credits
Content Area Requirements		
ACC 3010	Introduction to Financial Accounting	3
ACC 3020	Introduction to Managerial Accounting	3
BLW 2510	Business Law I	3
COM 3300	Business and Professional Presentations	3
ECO 2010	Principles of Microeconomics	3
ECO 2020	Principles of Macroeconomics	3
FIN 3050	Personal Financial Planning	3
ISM 5994	Software Tools for Business Applications	3
MAT 1500	College Algebra for the Social and Management Sciences	3
MGT 2530	Management of Organizational Behavior	3
MGT 5650	The Entrepreneur and Venture Creation	3
MKT 2300	Marketing Management	3
MKT 5450	Consumer Behavior	3
MKT 5490	Principles of Advertising	3
or MKT 5850	Integrated Marketing Communications Strategy	
Methodology Requirements		
CTE 5501	Instructional Practices for the Teacher Cadet Classroom - Module 1	1
CTE 5502	Instructional Practices for the Teacher Cadet Classroom - Module 2	1
CTE 5503	Instructional Practices for the Teacher Cadet Classroom - Module 3	1
CTE 5504	Instructional Practices for the Teacher Cadet Classroom - Module 4	1
CTE 5505	Instructional Practices for the Teacher Cadet Classroom - Module 5	1
CTE 5506	Instructional Practices for the Teacher Cadet Classroom - Module 6	1
Total Credits		48

Chemistry: Teaching Major

Code	Title	Credits
Content Area Requirements		
CHM 1220	General Chemistry I	4
CHM 1230	General Chemistry I Laboratory	1
CHM 1240	Organic Chemistry I	4
CHM 1250	Organic Chemistry I Laboratory	1
CHM 2220	Organic Chemistry II	4
CHM 2230	Organic Chemistry II Laboratory	1
CHM 2280	General Chemistry II: Analytical Chemistry	3
CHM 2290	General Chemistry II: Analytical Chemistry Laboratory	2
CHM 3020	Intermediate Inorganic Chemistry I	3
CHM 5400	Biological Physical Chemistry	4
CHM 5550	Physical Chemistry Laboratory	2
CHM 5600	Survey of Biochemistry	3
CHM 6740	Laboratory Safety	2
or SCE 6010	Safety in the Science Classroom	
Additional Science Requirements		
BIO 1050	An Introduction to Life	4
GEL 1010	Geology: The Science of the Earth	3
GEL 1011	Geology: The Science of the Earth Laboratory	1
PHY 2130	Physics for the Life Sciences I	4
PHY 2131	Physics for the Life Sciences Laboratory	1
Science Elective(s)		4
Additional Mathematics Requirements		
MAT 2010	Calculus I	4
STA 2210	Probability and Statistics	4
Methodology Requirements		
SCE 5060	Methods and Materials of Instruction in Secondary School Science I	3
SCE 5070	Methods and Materials of Instruction in Secondary School Science II	3
Total Credits		65

Earth/Space Science: Teaching Major

Code	Title	Credits
Content Area Requirements		
GEL 1010	Geology: The Science of the Earth	3
GEL 1011	Geology: The Science of the Earth Laboratory	1
GEL 1020	Interpreting the Earth	4
GEL 1370	Meteorology: The Study of Weather	3
GEL 2130	Mineralogy	4
GEL 3160	Petrology	4

GEL 3300	Structural Geology	4
GEL 3400	Principles of Sedimentology and Stratigraphy	4
GEL 5200 Oceanography for Educators		4
AST 2010	Descriptive Astronomy	4
AST 2011	Descriptive Astronomy Laboratory	1
Additional Science Requirements		
BIO 1050	An Introduction to Life	4
CHM 1220	General Chemistry I	4
CHM 1230	General Chemistry I Laboratory	1
CHM 6740	Laboratory Safety	2
or SCE 6010	Safety in the Science Classroom	
PHY 2130	Physics for the Life Sciences I	4
PHY 2131	Physics for the Life Sciences Laboratory	1
Additional Mathematics Requirements		
MAT 2010	Calculus I	4
STA 2210	Probability and Statistics	4
Methodology Requirements		
SCE 5060	Methods and Materials of Instruction in Secondary School Science I	3
SCE 5070	Methods and Materials of Instruction in Secondary School Science II	3
Total Credits		66

Economics: Teaching Major

(Minimum 36 credit hours)

Courses include:

Code	Title	Credits
Content Area Requirements		
ECO 2010	Principles of Microeconomics	4
ECO 2020	Principles of Macroeconomics	4
ECO 5100	Introductory Statistics and Econometrics	4
ECO 5300	International Trade	4
or ECO 5310	International Finance	
ECO 5400	Labor Economics	4
Economics Elective at or above the 5000 level		4
Economics Elective at or above the 5000 level		4
Methodology Requirements		
SSE 6710	Methods and Materials of Instruction in Secondary Social Studies	3
SSE 6730	New Perspectives in Social Studies Education	3

English: Teaching Major

(Minimum 36 credit hours)

Code	Title	Credits
Content Area Requirements		
ENG 2200	Shakespeare	3
ENG/AFS 2390	Introduction to African-American Literature: Literature and Writing	3
ENG 3110	English Literature to 1700	3
ENG 3120	English Literature after 1700	3
ENG 3130	American Literature to 1865	3
ENG 3140	American Literature after 1865	3
ENG 5420	American Literature: 1865-1914	3
or ENG 5450	Modern American Literature	
ENG 5720	Linguistics and Education	3
ENG 5730	English Grammar	3
ENG 6010	Tutoring Practicum	3
Methodology Requirements		
EED 5200	Methods of Teaching English: Grades 7-12	3
EED 6120	English Composition in Secondary Schools	3
or EED 6330	Teaching Literature in Secondary Schools	
Total Credits		36

French K-12: Teaching Major

(Minimum 45 credit hours)

Students must score at the Advanced Low Level in French, as measured by the Oral Proficiency Interview (OPI) from the American Council on the Teaching of Foreign Languages (ACTFL)

French: Teaching Major

(Minimum 36 credit hours)

Students must score at the Advanced Low Level in French, as measured by the Oral Proficiency Interview (OPI) from the American Council on the Teaching of Foreign Languages (ACTFL)

History: Teaching Major

(Minimum 36 credit hours)

Code	Title	Credits
Content Area Requirements		
HIS 1000	World Civilization to 1500	3-4
HIS 1300	Europe and the World: 1500-1945	3-4
HIS 1400	The World Since 1945	3-4
HIS 2040	American Foundations to 1877	3-4
HIS 2050	Modern America: Since 1877	3-4
HIS 2240	History of Michigan	3-4
HIS 3140	African American History I: 1400-1865	3-4
HIS 3150	African American History II: 1865-1968	3-4
History Elective at or above the 3000 level		3
History Elective at or above the 3000 level		3
Methodology Requirements		
SSE 6710	Methods and Materials of Instruction in Secondary Social Studies	3
SSE 6730	New Perspectives in Social Studies Education	3
Total Credits		36-44

Integrated Science: Teaching Major

Integrated Science is defined by the Michigan Department of Education as a comprehensive major: A teaching minor is not required.

Code	Title	Credits
Content Area Requirements		
Biology (five courses for twenty credits)		
BIO 1500	Basic Life Diversity	4
BIO 1510	Basic Life Mechanisms	4
BIO 2200	Introductory Microbiology	5
BIO 3070	Genetics	4
BIO 4120	Comparative Physiology	4
Chemistry (four courses, plus labs for seventeen credits)		

CHM 1220 & CHM 1230	General Chemistry I and General Chemistry I Laboratory	5
CHM 1240 & CHM 1250	Organic Chemistry I and Organic Chemistry I Laboratory	5
CHM 2220 & CHM 2230	Organic Chemistry II and Organic Chemistry II Laboratory	5
CHM 6740	Laboratory Safety	2
or SCE 6010	Safety in the Science Classroom	
Physics (three courses, plus corequisite labs for twelve credits)		
PHY 2130 & PHY 2131	Physics for the Life Sciences I and Physics for the Life Sciences Laboratory	5
PHY 2140 & PHY 2141	Physics for the Life Sciences II and Physics for the Life Sciences Laboratory	5
PHY 5015 & PHY 3310	Non-classical Physics for Educators and Introductory Modern Physics Laboratory	5
Earth/Space Science (three courses, plus lab for twelve credits)		
AST 2010 & AST 2011	Descriptive Astronomy and Descriptive Astronomy Laboratory	5
GEL 1010	Geology: The Science of the Earth	3
GEL 1011	Geology: The Science of the Earth Laboratory	1
GEL 1370	Meteorology: The Study of Weather	3
Additional Requirements		
MAT 1800	Elementary Functions	4
Elective in: Mathematics or Computer Science		2
Methodology Requirements		
SCE 5060	Methods and Materials of Instruction in Secondary School Science I	3
SCE 6030	Advanced Studies in Teaching Science in the Junior High and Middle School	3
Total Credits		77

Marketing Education: Teaching Major

(Minimum 36 credit hours)

Code	Title	Credits
Content Area Requirements		
MGT 5650	The Entrepreneur and Venture Creation	3
ECO 2010	Principles of Microeconomics	3
ECO 2020	Principles of Macroeconomics	3
MKT 2300	Marketing Management	3
COM 3300	Business and Professional Presentations	3
MKT 5450	Consumer Behavior	3
MKT 5460	Sales Management	3
MKT 5490	Principles of Advertising	3
MKT 5700	Retail Management	3
MKT 5410	Marketing Research and Analysis	3
Methodology Requirements		
CTE 5501	Instructional Practices for the Teacher Cadet Classroom - Module 1	1
CTE 5502	Instructional Practices for the Teacher Cadet Classroom - Module 2	1
CTE 5503	Instructional Practices for the Teacher Cadet Classroom - Module 3	1
CTE 5504	Instructional Practices for the Teacher Cadet Classroom - Module 4	1
CTE 5505	Instructional Practices for the Teacher Cadet Classroom - Module 5	1
CTE 5506	Instructional Practices for the Teacher Cadet Classroom - Module 6	1
Total Credits		36

Mathematics: Teaching Major

(Minimum 47 credit hours)

Code	Title	Credits
Content Area Requirements		
MAT 2010	Calculus I	4
MAT 2020	Calculus II	4
MAT 2030	Calculus III	4
STA 2210	Probability and Statistics	4
MAT 2250	Elementary Linear Algebra	3
MAT 2860	Discrete Mathematics	3
MAT 5000	Fundamental Concepts of Mathematics and Proof Writing	3
Select one of the following:		3-4
MAT 5070	Elementary Analysis	
MAT 5400	Elementary Theory of Numbers	
MAT 5520	Introduction to Topology	
MAT 5420	Algebra I	4
or MAT 6170	Algebra: Ring Theory Through Exploration, Conjecture, and Proof	
MAT 6140	Geometry: An Axiomatic Approach	3
MAE/MAT 6200	Teaching Arithmetic, Algebra and Functions from an Advanced Perspective	3
MAE/MAT 6210	Teaching Geometry, Probability and Statistics, and Discrete Mathematics from an Advanced Perspective	3
MAE 5150	Methods and Materials of Instruction: Secondary School Mathematics	3
MAE 6050	Teaching Mathematics in the Middle Grades	3
Total Credits		47-48

Physics: Teaching Major

Code	Title	Credits
Content Area Requirements		
PHY 2170	University Physics for Scientists I	4
PHY 2171	University Physics Laboratory	1
PHY 2180	University Physics for Scientists II	4
PHY 2181	University Physics Laboratory II	1
PHY 3300	Introductory Modern Physics	3
PHY 3310	Introductory Modern Physics Laboratory	2
PHY 5200	Classical Mechanics I	3
PHY 5340	Optics	3
PHY 5341	Optics Laboratory	2
PHY 5620	Electronics and Electrical Measurements	3
PHY 6600	Electromagnetic Fields I	3
Additional Science Requirements		
BIO 1050	An Introduction to Life	4
CHM 1220	General Chemistry I	4
CHM 1230	General Chemistry I Laboratory	1
CHM 6740	Laboratory Safety	2
or SCE 6010	Safety in the Science Classroom	
GEL 1010	Geology: The Science of the Earth	3

GEL 1011	Geology: The Science of the Earth Laboratory	1
Science Elective(s)		4
Additional Mathematics Requirements		
MAT 2010	Calculus I	4
STA 2210	Probability and Statistics	4
Methodology Requirements		
SCE 5060	Methods and Materials of Instruction in Secondary School Science I	3
SCE 5070	Methods and Materials of Instruction in Secondary School Science II	3
Total Credits		62

Political Science: Teaching Major

(Minimum 36 credit hours)

Code	Title	Credits
Content Area Requirements		
PS 1010	American Government	4
PS 2710	Introduction to Comparative Politics	4
PS 2810	World Politics	4
PS 3020	Political Parties and Elections	4
PS 3070	Michigan Politics	4
PS 5120	Constitutional Rights and Liberties	4
Political Science Elective at or above the 3000 level		3
Political Science Elective at or above the 3000 level		3
Methodology Requirements		
SSE 6710	Methods and Materials of Instruction in Secondary Social Studies	3
SSE 6730	New Perspectives in Social Studies Education	3
Total Credits		36

Social Studies (Comprehensive): Teaching Major

(Minimum 60 credit hours)

A comprehensive major, as defined by the Michigan Department of Education, does not require a teaching minor. Courses include:

Code	Title	Credits
Content Area Requirements		
ECO 2010	Principles of Microeconomics	3
ECO 2020	Principles of Macroeconomics	3
GPH 1100	World Regional Patterns	4
GPH 2000	Introduction to Urban Studies	4
GPH 2200	Geography of Michigan	3
HIS 1000	World Civilization to 1500	3
HIS 1300	Europe and the World: 1500-1945	3
HIS 1400	The World Since 1945	3
HIS 2040	American Foundations to 1877	3
HIS 2050	Modern America: Since 1877	3
HIS 2240	History of Michigan	3
PS 1010	American Government	4
PS 2420	Ethics and Politics of Public Policy	4
PS 2820	Introduction to Peace and Conflict Studies	3
PS 3070	Michigan Politics	4
Methodology Requirements		
SSE 6710	Methods and Materials of Instruction in Secondary Social Studies	3
SSE 6730	New Perspectives in Social Studies Education	3

Social Studies (Group): Teaching Major

(Minimum 42 credit hours)

Code	Title	Credits
Content Area Requirements		
ECO 2010	Principles of Microeconomics	3-4
ECO 2020	Principles of Macroeconomics	3-4
GPH 1100	World Regional Patterns	4
GPH 2200	Geography of Michigan	3
HIS 1000	World Civilization to 1500	3-4
HIS 1300	Europe and the World: 1500-1945	3-4
HIS 2040	American Foundations to 1877	3-4
HIS 2050	Modern America: Since 1877	3-4
HIS 2240	History of Michigan	3-4
PS 1010	American Government	4
PS 3070	Michigan Politics	4
Methodology Requirements		
SSE 6710	Methods and Materials of Instruction in Secondary Social Studies	3
SSE 6730	New Perspectives in Social Studies Education	3
Total Credits		42-49

Spanish K-12: Teaching Major

(Minimum 45 credit hours)

Students must score at the Advanced Low Level in Spanish, as measured by the Oral Proficiency Interview (OPI) from the American Council on the Teaching of Foreign Languages (ACTFL)

Code	Title	Credits
Content Area Requirements		
SPA 3025	Cultural Connections, Grammar and Composition II	3
SPA 3200	Conversation	3
SPA 3300	Introduction to Cultural and Literary Analysis	3
SPA 4610	Introduction to Early Modern Spanish Literature	3
or SPA 4620	Introduction to Modern and Contemporary Spanish Literature	
SPA 4630	Introduction to Colonial Latin American Literature	3
or SPA 4640	Introduction to Modern and Contemporary Latin American Literature	
SPA 5100	Advanced Composition	3
SPA 5200	Spanish Phonetics	3
Select one of the following:		3
SPA 5550	Spanish Culture and Its Tradition	
SPA 5560	Spanish American Cultures and their Traditions	
SPA 5570	Topics in Hispanic Culture or Language	
SPA 6400	Introduction to Hispanic Linguistics	3
SPA 6560	Cervantes	3
or SPA 6620	Latin American Novel in the 20th and 21st Centuries	
Methodology Requirements		
LED 6500	Teaching World Languages in Elementary and Middle Schools: Methods III	3

LED 6520	Teaching English as a Second Language/Foreign Language: Methods I	3
LED 6530	Teaching English as a Second Language/Foreign Language: Methods II	3
Additional Requirements		
EDP 5480	Adolescent Psychology	3
RLL 6700	Second Language Literacy Development: K-12	3
Total Credits		45

Spanish: Teaching Major

(Minimum 36 credit hours)

Students must score at the Advanced Low Level in Spanish, as measured by the Oral Proficiency Interview (OPI) from the American Council on the Teaching of Foreign Languages (ACTFL)

Code	Title	Credits
Content Area Requirements		
SPA 3025	Cultural Connections, Grammar and Composition II	3
SPA 3200	Conversation	3
SPA 3300	Introduction to Cultural and Literary Analysis	3
SPA 4610	Introduction to Early Modern Spanish Literature	3
or SPA 4620	Introduction to Modern and Contemporary Spanish Literature	
SPA 4630	Introduction to Colonial Latin American Literature	3
or SPA 4640	Introduction to Modern and Contemporary Latin American Literature	
SPA 5100	Advanced Composition	3
SPA 5200	Spanish Phonetics	3
Select one of the following:		3
SPA 5550	Spanish Culture and Its Tradition	
SPA 5560	Spanish American Cultures and their Traditions	
SPA 5570	Topics in Hispanic Culture or Language	
SPA 6400	Introduction to Hispanic Linguistics	3
SPA 6560	Cervantes	3
or SPA 6620	Latin American Novel in the 20th and 21st Centuries	
Methodology Requirements		
LED 6500	Teaching World Languages in Elementary and Middle Schools: Methods III	3
LED 6520	Teaching English as a Second Language/Foreign Language: Methods I	3
Total Credits		36

Speech: Teaching Major

(Minimum 39 credit hours)

Code	Title	Credits
Content Area Requirements		
COM 1010	Oral Communication: Basic Speech	3
COM 1500	Survey of Mass Communication	3
COM 2000	Introduction to Communication Studies	3
COM 2110	Argumentation and Debate	3
COM 2200	Interpersonal Communication	3
Select one of the following:		3
COM 1600	Introduction to Audio-Television-Film Production	
COM 2280	Digital Photojournalism	
COM 5300	Layout and Design	
COM 4270	Group Communication	3
COM 3400	Theories of Communication	3
COM 4130	Communication Ethics	3
COM 4300	Intercultural Communication	3
COM 6070	Directing Forensics	3
Methodology Requirements		
COM 6060	Teaching Communication at the Secondary Level	3
EED 6210	Language, Literacy, and Learning	3
Total Credits		39

Trade and Industry: Teaching Major

(Minimum 36 credit hours)

Requires a second academic teaching major; a teaching minor is not required.

Code	Title	Credits
Content Area Requirements		
The required coursework varies by the specific occupational area. Examples of occupational areas include: Drafting & Design Technology, Construction Trades, Automobile Technician, Machine Tool Operations/Machine Shop, Welding, Woodworking General, etc… See an advisor for more information.		
Methodology Requirements		
CTE 5501	Instructional Practices for the Teacher Cadet Classroom - Module 1	1
CTE 5502	Instructional Practices for the Teacher Cadet Classroom - Module 2	1
CTE 5503	Instructional Practices for the Teacher Cadet Classroom - Module 3	1
CTE 5504	Instructional Practices for the Teacher Cadet Classroom - Module 4	1
CTE 5505	Instructional Practices for the Teacher Cadet Classroom - Module 5	1
CTE 5506	Instructional Practices for the Teacher Cadet Classroom - Module 6	1

Visual Arts Education: Teaching Major

(Minimum of 57 credit hours in Foundation, Intermediate, Advanced Studio/ Methodology courses; Minimum of 23 credit hours in Professional Education and Student Teaching courses)

A comprehensive major, as defined by the Michigan Department of Education, does not require a teaching minor.

This program is designed to provide professional preparation for individuals who seek K-12 certification in visual arts education. Students in this program receive the Michigan Secondary Provisional Teaching Certificate. It is recommended that students plan their coursework in advance with an advisor as accurately as possible to avoid extra courses or conflicts.

The program for visual arts education consists of University General Education Requirements (Competency Requirements and Group Requirements) for which see General Education Program: College Requirements; a teaching major of visual arts education with foundational, intermediate, and advanced studio coursework; and a sequence of professional education courses including one semester of half-day student teaching and one semester of full-day student teaching. The policy of the College of Education is to provide teaching experiences in both an urban and a suburban setting.

For specific course selections students should consult the College of Education advisor in room 469, Education Building.

Arabic: Teaching Minor

(Minimum 27 credit hours)

Students must score the Intermediate High Level in Arabic, as measured by the Oral Proficiency Interview (OPI) from the American Council on the Teaching of Foreign Languages (ACTFL).

Code	Title	Credits
Content Area Requirements		
ARB 3110	Advanced Arabic I	3
ARB 3120	Advanced Arabic II	3
ARB 3210	Spoken Arabic	3
ARB/NE 5230	Structure of Arabic	3
ARB 5140	Modern Arabic Literature in Arabic and English	3
NE 3040/ HIS 3320	Twentieth Century Middle East	3
NE/ANT 3550	Arab Society in Transition	3
Methodology Requirements		
LED 6500	Teaching World Languages in Elementary and Middle Schools: Methods III	3
LED 6520	Teaching English as a Second Language/Foreign Language: Methods I	3
Total Credits		27

Bilingual-Bicultural Education: Teaching Minor

(Minimum 23 credit hours)

Students must demonstrate superior proficiency (speaking, reading, and writing) in a non-English language as measured by the Oral Proficiency Interview (OPI) and Writing Proficiency Test (WPT) from the American Council on the Teaching of Foreign Languages. (ACTFL).

Code	Title	Credits
BBE 5000	Multicultural Education in Urban America	2
BBE 5500	Introduction to Bilingual/Bicultural Education	3
BBE 6560	Teaching Methods in Bilingual/Bicultural Education	3
BBE 6850	Applied Linguistics: Issues in Bilingual Education	3
BBE 6590	Culture and Language in Bilingual/Bicultural Education	3
LED 6520	Teaching English as a Second Language/Foreign Language: Methods I	3
LED 6555	Integration of Language and Content in Language Teaching	3
RLL 6700	Second Language Literacy Development: K-12	3
Total Credits		23

Note: An internship in Bilingual/Bicultural Teaching (BBE 6600) may be required. Students should consult their advisor for more information.

Biology Teaching Minor

Code	Title	Credits
Content Area Requirements		
BIO 1500	Basic Life Diversity	4
BIO 1510	Basic Life Mechanisms	4
BIO 2200	Introductory Microbiology	5
BIO 2870	Anatomy and Physiology	5
BIO 3070	Genetics	4
Additional Science Requirements		
CHM 6740	Laboratory Safety	2
or SCE 6010	Safety in the Science Classroom	
Additional Mathematics Requirements		
MAT 1800	Elementary Functions	4
Methodology Requirements		
SCE 5060	Methods and Materials of Instruction in Secondary School Science I	3
Total Credits		31

Chemistry: Teaching Minor

(Minimum 29 credit hours)

Code	Title	Credits
Content Area Requirements		
CHM 1220	General Chemistry I	4
CHM 1230	General Chemistry I Laboratory	1
CHM 1240	Organic Chemistry I	4
CHM 1250	Organic Chemistry I Laboratory	1
CHM 2220	Organic Chemistry II	4
CHM 2230	Organic Chemistry II Laboratory	1
CHM 2280	General Chemistry II: Analytical Chemistry	3
CHM 2290	General Chemistry II: Analytical Chemistry Laboratory	2
CHM 6740	Laboratory Safety	2
or SCE 6010	Safety in the Science Classroom	
Additional Mathematics Requirements		
MAT 1800	Elementary Functions	4
Methodology Requirements		
SCE 5060	Methods and Materials of Instruction in Secondary School Science I	3
Total Credits		29

Earth/Space Science: Teaching Minor

(Minimum 33 credit hours)

Code	Title	Credits
Content Area Requirements		
GEL 1010	Geology: The Science of the Earth	3
GEL 1011	Geology: The Science of the Earth Laboratory	1
GEL 1020	Interpreting the Earth	4
GEL 1370	Meteorology: The Study of Weather	3
GEL 2130	Mineralogy	4
GEL 3160	Petrology	4
or GEL 3400	Principles of Sedimentology and Stratigraphy	
AST 2010	Descriptive Astronomy	4
AST 2011	Descriptive Astronomy Laboratory	1
Additional Science Requirements		
CHM 6740	Laboratory Safety	2
or SCE 6010	Safety in the Science Classroom	
Additional Mathematics Requirements		
MAT 1800	Elementary Functions	4
Methodology Requirements		

SCE 5060	Methods and Materials of Instruction in Secondary School Science I	3
Total Credits		33

Economics: Teaching Minor

(Minimum 27 credit hours)

Courses include:

Code	Title	Credits
Content Area Requirements		
ECO 2010	Principles of Microeconomics	4
ECO 2020	Principles of Macroeconomics	4
ECO 5300	International Trade	4
or ECO 5310	International Finance	
ECO 5400	Labor Economics	4
Economics Elective at or above the 5000 level		3
Methodology Requirements		
SSE 6710	Methods and Materials of Instruction in Secondary Social Studies	3
SSE 6730	New Perspectives in Social Studies Education	3

English as a Second Language (ESL): Teaching Minor

(Minimum 23 credits hours)

A major or minor in Language Arts is strongly recommended with an ESL Minor.

Code	Title	Credits
BBE 5000	Multicultural Education in Urban America	2
BBE 6850	Applied Linguistics: Issues in Bilingual Education	3
LED 6510	Second Language Acquisition and the Teaching of Grammar	3
LED 6520	Teaching English as a Second Language/Foreign Language: Methods I	3
LED 6555	Integration of Language and Content in Language Teaching	3
LED 6565	Assessment in Language Teaching	3
LED 6580	Culture as the Basis for Language Teaching	3
RLL 6700	Second Language Literacy Development: K-12	3
Total Credits		23

Note: An internship in Bilingual/Bicultural Teaching (BBE 6600) may be required. Students should consult their advisor for more information.

English: Teaching Minor

(Minimum 27 credit hours)

Code	Title	Credits
Content Area Requirements		
ENG 2200	Shakespeare	3
ENG/AFS 2390	Introduction to African-American Literature: Literature and Writing	3
ENG 3110	English Literature to 1700	3
or ENG 3120	English Literature after 1700	
ENG 3130	American Literature to 1865	3
or ENG 3140	American Literature after 1865	
ENG 5420	American Literature: 1865-1914	3
or ENG 5450	Modern American Literature	
ENG 5720	Linguistics and Education	3
ENG 5730	English Grammar	3
ENG 6010	Tutoring Practicum	3
Methodology Requirements		
EED 5200	Methods of Teaching English: Grades 7-12	3
Total Credits		27

French: Teaching Minor

(Minimum 27 credit hours)

Students must score at the Advanced Low Level in French, as measured by the Oral Proficiency Interview (OPI) from the American Council on the Teaching of Foreign Languages (ACTFL)

Health: Teaching Minor

(Minimum 21 credit hours)

Code	Title	Credits
HE 3300	Health of the School Child	3
HE 3330	Methods in Teaching Health	3
HE 3440	Nutrition and Health Education	3
or KHS 6540	Workshop in Kinesiology, Health and Sport Studies	
HE 4340	Family and Reproductive Health	3
HE 5440	Mental Health and Substance Abuse	3
HE 5620	Performance Based Assessment in Health Education	3
HE 6430	School Health Curriculum	3
Total Credits		21

History: Teaching Minor

(Minimum 27 credit hours)

Code	Title	Credits
Content Area Requirements		
HIS 1000	World Civilization to 1500	3-4
HIS 1300	Europe and the World: 1500-1945	3-4
HIS 1400	The World Since 1945	3-4
HIS 2040	American Foundations to 1877	3-4
HIS 2050	Modern America: Since 1877	3-4
HIS 2240	History of Michigan	3-4
HIS 3140	African American History I: 1400-1865	3-4
or HIS 3150	African American History II: 1865-1968	
Methodology Requirements		
SSE 6710	Methods and Materials of Instruction in Secondary Social Studies	3
SSE 6730	New Perspectives in Social Studies Education	3
Total Credits		27-34

Mathematics: Teaching Minor

(Minimum 34 credit hours)

Code	Title	Credits
Content Area Requirements		
MAT 2010	Calculus I	4
MAT 2020	Calculus II	4
MAT 2250	Elementary Linear Algebra	3

MAT 2860	Discrete Mathematics	3
MAT 5000	Fundamental Concepts of Mathematics and Proof Writing	3
MAT 5420	Algebra I	4
or MAT 6170	Algebra: Ring Theory Through Exploration, Conjecture, and Proof	
MAT 6140	Geometry: An Axiomatic Approach	3
MAE/MAT 6210	Teaching Geometry, Probability and Statistics, and Discrete Mathematics from an Advanced Perspective	3
MAE 5150	Methods and Materials of Instruction: Secondary School Mathematics	3
STA 2210	Probability and Statistics	4
Total Credits		34

Physical Education: Teaching Minor

(Minimum 27 credit hours)

Code	Title	Credits
Requirements		
KIN 5100	Anatomical and Physiological Bases of Physical Activity	3
KIN 5110	Motor Learning and Development	3
KIN 5200	Effective Teaching and Instructional Practices	3
KIN 5220	Sports I	3
Select two of the following:		6
KIN 5230	Sports II	
KIN 5250	Adventure and Outdoor Pursuits	
KIN 5260	Aquatic Leadership	
KIN 5240	Fitness Instruction	3
KIN 5400	Adapted Physical Activity	3
KIN 5600	Socio-cultural Issues in Physical Activity	3
Total Credits		27

Physics: Teaching Minor

Code	Title	Credits
Content Area Requirements		
PHY 2130	Physics for the Life Sciences I	4
PHY 2131	Physics for the Life Sciences Laboratory	1
PHY 2140	Physics for the Life Sciences II	4
PHY 2141	Physics for the Life Sciences Laboratory	1
PHY 5015	Non-classical Physics for Educators	3
PHY 3310	Introductory Modern Physics Laboratory	2
PHY 5620	Electronics and Electrical Measurements	3
Physics Elective at or above the 1000 level		3
Additional Science Requirements		
CHM 6740	Laboratory Safety	2
or SCE 6010	Safety in the Science Classroom	
Additional Mathematics Requirements		
MAT 1800	Elementary Functions	4
Methodology Requirements		
SCE 5060	Methods and Materials of Instruction in Secondary School Science I	3
Total Credits		30

Political Science: Teaching Minor

(Minimum 26 credit hours)

Code	Title	Credits
Content Area Requirements		
PS 1010	American Government	4
PS 2710	Introduction to Comparative Politics	4
PS 2810	World Politics	4
PS 3020	Political Parties and Elections	4
PS 3070	Michigan Politics	4
Methodology Requirements		
SSE 6710	Methods and Materials of Instruction in Secondary Social Studies	3
SSE 6730	New Perspectives in Social Studies Education	3
Total Credits		26

Spanish: Teaching Minor

(Minimum 24 credit hours)

Students must score at the Advanced Low Level in Spanish, as measured by the Oral Proficiency Interview (OPI) from the American Council on the Teaching of Foreign Languages (ACTFL)

Code	Title	Credits
Content Area Requirements		
SPA 3025	Cultural Connections, Grammar and Composition II	3
SPA 3200	Conversation	3
SPA 3300	Introduction to Cultural and Literary Analysis	3
SPA 4610	Introduction to Early Modern Spanish Literature	3
or SPA 4620	Introduction to Modern and Contemporary Spanish Literature	
SPA 4630	Introduction to Colonial Latin American Literature	3
or SPA 4640	Introduction to Modern and Contemporary Latin American Literature	
SPA 5100	Advanced Composition	3
SPA 5200	Spanish Phonetics	3
Methodology Requirements		
LED 6520	Teaching English as a Second Language/Foreign Language: Methods I	3
Total Credits		24

Speech: Teaching Minor

(Minimum 24 credit hours)

Code	Title	Credits
Content Area Requirements		
(COM 1010 is a prerequisite for this minor)		
COM 1500	Survey of Mass Communication	3
COM 2000	Introduction to Communication Studies	3
COM 2110	Argumentation and Debate	3
COM 2200	Interpersonal Communication	3
COM 4130	Communication Ethics	3
COM 6070	Directing Forensics	3
Additional Communication Course (see advisor)		3
Methodology Requirements		

COM 6060	Teaching Communication at the Secondary Level	3
Total Credits		24

Bachelor of Arts in Education - Special Education

The special education curriculum leads to a bachelor's degree in education and certification in the area of cognitive impairment.

Admission: Level 1

Entry to the College of Education

All students intending to pursue a teaching curriculum who enter the University directly from high school, or transfer from other colleges are directly admitted by the University Admissions Office (p. 22) into the College of Education in Level 1 status.

Admission: Level 2

Entry to Professional Education Sequence

The standards listed below apply to those students entering the College of Education at Level 2: those working for a secondary or elementary school teaching certificate; those in a combined degree program; and those previously admitted at the freshman or sophomore level to the College of Education.

Eligibility for admission is based on the following criteria:

1. Satisfactory completion of fifty-three semester or eighty quarter credits of course work with an overall grade point average of 2.5 or above. In addition, the grade point average for any courses taken at Wayne State University must be 2.5 or above. This coursework should generally conform to the Level 1 courses prescribed by the College for students who expect to prepare for teaching. The quality of work, especially in the major area, must indicate a strong potential for success in a teacher-education program.
2. Intermediate Composition Competency Requirement: All Education students must satisfactorily complete the University intermediate composition competency (p. 35) requirement prior to admission.
3. Physical Health: Definite standards of health must be met by all students entering the College. All students are required to present a negative tuberculosis (T.B.) test prior to admission.
4. Group Work Experience: All students must have verifiable successful group work (forty hours) experience with children.
5. Criminal History Check: All students must submit a current (within the last six months) statewide criminal history check (http://coe.wayne.edu/pdfs/criminial_history_new.pdf).
6. Elementary Education: Students seeking admission to Elementary Education must complete MAT 1110 and MAT 1120 or have appropriate prerequisite math course in progress.
7. Special Education: Students seeking admission to Special Education must have completed the following courses:

Code	Title	Credits
MAT 1110	Mathematics for Elementary School Teachers I (or have appropriate prerequisite math course in progress)	3
PSY 1010	Introductory Psychology	4
PSY 2400	Developmental Psychology	4
Select one of the following:		3-4
BIO 1030	Biology Today	
BIO 1050	An Introduction to Life	
BIO 1500	Basic Life Diversity	
BIO 1510	Basic Life Mechanisms	
SCE 5010	Biological Sciences for Elementary and Middle School Teachers	

8. Secondary Education: Students seeking admission to Secondary Education must have twelve-semester credits completed in the major
9. Specific Prerequisites or other special requirements of the curriculum area for which the student is applying.

Application for Level 2 Standing

Upon completion of a minimum of fifty-three-semester credits of college coursework and all other Level 2 admission requirements, students should apply for College of Education Level 2 standing. Applicants who have completed college work in institutions other than Wayne State must first apply for admission through the University Office of Admissions (p. 22).

Students who intend to receive degrees from other colleges in the University AND a teaching certificate from the College of Education must apply to the Combined Program through Academic Services, 489 Education Building. All applicants to Level 2 must attend an orientation session.

All students must complete University General Education Requirements (p. 34), the Special Education Comprehensive Major (some of these courses may also satisfy the University General Education Requirements), Professional Education Requirements and the major area of study (Special Education Cognitive Impairment) as outlined below. The total number of credit hours for the degree varies from 153 to 156 depending on how General Education Requirements are met and the number of courses needed to complete a foreign language to the intermediate level.

No grade below 'C' may be used to meet any requirement specific to the Comprehensive Major, Professional Education Sequence and the Special Education major.

General Education Requirements

Code	Title	Credits
Written Communication		
Basic Composition (BC)		
Intermediate Composition (ICN)		
Oral Communication (OC)		
Quantitative Experience (QE)		
MAT 1110	Mathematics for Elementary School Teachers I	
Natural Science Inquiry (NSI)		
Two courses required (select one from PSY and one from BIO). One course must include a lab.		
PSY 1010	Introductory Psychology	
or PSY 1020	Elements of Psychology	
BIO 1030	Biology Today	
or BIO 1050	An Introduction to Life	
or BIO 1500	Basic Life Diversity	
or BIO 1510	Basic Life Mechanisms	
Civic Literacy Inquiry (CIV)		
PS 1010	American Government	
or PS 1030	The American Governmental System	
Social Inquiry (SI)		
GPH 1100	World Regional Patterns	
Cultural Inquiry (CI)		
AED 5050	Integrating the Arts into the Elementary Classroom (Completed after admission to Level 2)	

Diversity Equity and Inclusion Inquiry (DEI)	
Global Learning Inquiry (GLI)	
Approved Foreign Language Sequence for the BA Degree in Education: Complete one foreign language sequence through the third semester (Intermediate Level: 2010 or 2110)	

Special Education Comprehensive Major

Code	Title	Credits
ELE 6200	Children's Literature for Teachers	3
GPH 1100	World Regional Patterns	4
HIS 2040	American Foundations to 1877	3-4
HIS 2050	Modern America: Since 1877	3-4
HIS 2240	History of Michigan	3-4
MAT 1110	Mathematics for Elementary School Teachers I	3
MAT 1120	Mathematics for Elementary School Teachers II	3
PSY 1010	Introductory Psychology	4
or PSY 1020	Elements of Psychology	
PSY 2400	Developmental Psychology	4
ECO 1000	Survey of Economics	4
or ECO 2010	Principles of Microeconomics	
or ECO 2020	Principles of Macroeconomics	
HIS 1000	World Civilization to 1500	4
or HIS 1300	Europe and the World: 1500-1945	
or HIS 1400	The World Since 1945	
PS 1010	American Government	4
or PS 1030	The American Governmental System	
BIO 1030	Biology Today	3
or BIO 1050	An Introduction to Life	
or BIO 1500	Basic Life Diversity	
or BIO 1510	Basic Life Mechanisms	
or SCE 5010	Biological Sciences for Elementary and Middle School Teachers	
SCE 5020	Physical Sciences for Elementary and Middle School Teachers	3
SCE 5030	Earth/Space Science for Elementary and Middle School Teachers	3
KIN 5550	Health and Physical Education for the Elementary School Teacher	3
Total Credits		54-57

Professional Education Sequence

Code	Title	Credits
The following course must be completed in Level 1:		
TED 2250	Becoming an Urban Educator	3
The following courses may be completed in Level 1 or 2:		
BBE 5000	Multicultural Education in Urban America	2
EDP 3310	Educational Psychology	3
ELE 6070	Family, Community and School Partnerships: Supporting Children's Learning	3
TED 6020	Computer Applications in Teaching I	3
The following courses must be taken prior to TED 5150 Pre-Student Teaching:		
ELE 6220	Literacy I	3
One additional method course (see Advisor)		
Pre-Student Teaching Experience		
TED 5150	Analysis of Elementary Teaching	5
The following courses may be elected at any time after admission to the College of Education Level 2 and must be completed prior to taking TED 5790		
ELE 6240	Literacy II	3
ELE 6260	Literacy III	3
ELE 6390	Mathematics Instruction: P-8	3
ELE 6500	Science Curriculum: P-8	3
ELE 6600	Social Studies Curriculum: P-8	3
AED 5050	Integrating the Arts into the Elementary Classroom [1]	3
Elementary Field Experience		
TED 5780	Directed Teaching and Conference	5
Special Education Field Experience		
TED 5790	Directed Teaching and Conference for Special Groups	
Total Credits		45

[1] Prereq: ELE 6220 and two additional Elementary Methods courses

Major Areas of Study (Special Education)

Students pursuing a bachelor's degree in education leading to an endorsement in Cognitive Impairment must complete the following major requirements. The courses cited in the major, with the exception of SED 5000 and SED 5010, may be completed only after admission to the Special Education Level 2 Program.

Cognitive Impairment (a minimum of thirty credit hours)

Code	Title	Credits
SED 5000	History, Philosophy, and Ethics of Teaching Students with Disabilities	2
SED 5010	Inclusive Teaching	2
SED 5075	Consultation and Collaboration for Inclusive Teaching	2
SED 5080	Supportive Environments, Engaged Learning	2
SED 5090	Transitions for Students with Disabilities	2
SED 5110	Introduction to Teaching Students with Moderate/Significant Support Needs	3
SED 5115	Observation and Assessment of Students with Moderate/Significant Support Needs	3
SED 5121	Language Development and Instruction for Students with Moderate/Significant Support Needs	2
SED 5125	Teaching Students with Significant/Multiple Support Needs	3
SED 5130	Teaching Students with Moderate Support Needs	3
TED 5790	Directed Teaching and Conference for Special Groups	6
Total Credits		30

Bachelor of Science in Education - Elementary Education

Education (Elementary) Leading to K-8 Certification (Bachelor's Degree Programs)

The elementary certificate qualifies the holder to teach all subjects in kindergarten through grade five and all K-8 subjects in a self-contained classroom. Additionally, the major and minor subjects may be taught if the teacher has passed the MTTC subject test.

Admission: Level 1

Entry to the College of Education

All students intending to pursue a teaching curriculum who enter the University directly from high school, or transfer from other colleges are directly admitted by the University Admissions Office (p. 22) into the College of Education in Level 1 status.

Admission: Level 2

Entry to Professional Education Sequence

The standards listed below apply to those students entering the College of Education at Level 2: those working for a secondary or elementary school teaching certificate; those in a combined degree program; and those previously admitted at the freshman or sophomore level to the College of Education.

Eligibility for admission is based on the following criteria:

1. Satisfactory completion of fifty-three semester or eighty quarter credits of course work with an overall grade point average of 2.5 or above. In addition, the grade point average for any courses taken at Wayne State University must be 2.5 or above. This coursework should generally conform to the Level 1 courses prescribed by the College for students who expect to prepare for teaching. The quality of work, especially in the major area, must indicate a strong potential for success in a teacher-education program.
2. Intermediate Composition Competency Requirement: All Education students must satisfactorily complete the University intermediate composition competency (p. 35) requirement prior to admission.
3. Physical Health: Definite standards of health must be met by all students entering the College. All students are required to present a negative tuberculosis (T.B.) test prior to admission.
4. Group Work Experience: All students must have verifiable successful group work (forty hours) experience with children.
5. Criminal History Check: All students must submit a current (within the last six months) statewide criminal history check (http://coe.wayne.edu/pdfs/criminial_history_new.pdf).
6. Elementary Education: Students seeking admission to Elementary Education must complete MAT 1110 and MAT 1120 or have appropriate prerequisite math course in progress.
7. Special Education: Students seeking admission to Special Education must have completed the following courses:

Code	Title	Credits
MAT 1110	Mathematics for Elementary School Teachers I (or have appropriate prerequisite math course in progress)	3
PSY 1010	Introductory Psychology	4
PSY 2400	Developmental Psychology	4
Select one of the following:		3-4
BIO 1030	Biology Today	
BIO 1050	An Introduction to Life	
BIO 1500	Basic Life Diversity	
BIO 1510	Basic Life Mechanisms	
SCE 5010	Biological Sciences for Elementary and Middle School Teachers	

8. Secondary Education: Students seeking admission to Secondary Education must have twelve-semester credits completed in the major
9. Specific Prerequisites or other special requirements of the curriculum area for which the student is applying.

Application for Level 2 Standing

Upon completion of a minimum of fifty-three-semester credits of college coursework and all other Level 2 admission requirements, students should apply for College of Education Level 2 standing. Applicants who have completed college work in institutions other than Wayne State must first apply for admission through the University Office of Admissions (p. 22).

Students who intend to receive degrees from other colleges in the University AND a teaching certificate from the College of Education must apply to the Combined Program through Academic Services, 489 Education Building. All applicants to Level 2 must attend an orientation session.

DEGREE REQUIREMENTS (K-5 all subjects, K-8 self-contained certification): The following requirements in various curricular areas supplement the degree requirements outlined above.

All students must complete the College Requirements and the Planned Program/Comprehensive Major as outlined below. Students have a choice of selecting a core major or a student-centered minor (i.e. Bilingual-Bicultural Education, Early Childhood, English as a Second Language). Some of the courses cited in the following curricula may satisfy the University General Education Requirements (p. 34) AND requirements in the major and minor. No grade below 'C' may be used to meet requirements specific to elementary education, the major, the minor (including the planned minor), or professional education courses; a grade of 'C-minus' is not acceptable.

Planned Program/Comprehensive Major

Code	Title	Credits
Children's Literature		
ELE 6200	Children's Literature for Teachers	
U.S. History		
HIS 2040	American Foundations to 1877	
HIS 2050	Modern America: Since 1877	
Michigan History		
HIS 2240	History of Michigan	
Biology		
BIO 1030	Biology Today	
or BIO 1050	An Introduction to Life	
or BIO 1500	Basic Life Diversity	
or BIO 1510	Basic Life Mechanisms	
or SCE 5010	Biological Sciences for Elementary and Middle School Teachers	
Physical Science		
SCE 5020	Physical Sciences for Elementary and Middle School Teachers	
Earth/Space Science		
SCE 5030	Earth/Space Science for Elementary and Middle School Teachers	
Health and Physical Education		
KIN 5550	Health and Physical Education for the Elementary School Teacher	
Teacher Education		
TED 2250	Becoming an Urban Educator	
Level 2 Courses		
AED 5050	Integrating the Arts into the Elementary Classroom	
BBE 5000	Multicultural Education in Urban America	
EDP 3310	Educational Psychology	

ELE 6220	Literacy I	
ELE 6240	Literacy II	
ELE 6260	Literacy III	
ELE 6390	Mathematics Instruction: P-8	
ELE 6500	Science Curriculum: P-8	
ELE 6600	Social Studies Curriculum: P-8	
ELE 6070	Family, Community and School Partnerships: Supporting Children's Learning	
SED 5010	Inclusive Teaching	
TED 6020	Computer Applications in Teaching I	
Students seeking elementary certification must meet major/minor requirements according to the curriculum guide.		
Clinical Courses (Off-Campus) [1]		
The following courses must be taken prior to Pre-Student Teaching:		
ELE 6220	Literacy I	
Additional methods course (see advisor)		
Pre-Student Teaching		
TED 5150	Analysis of Elementary Teaching	
Final Clinical Experience		
TED 5780	Directed Teaching and Conference	
Early Childhood Clinical Experience		
All students enrolling in the Early Childhood program must have a Major or Minor in Early Childhood and must complete two semesters of student teaching; for requirements see EARLY CHILDHOOD SPECIALIZATION (Minimum Twenty-four Credits)		
Elementary Student Teaching Experience		
TED 5780	Directed Teaching and Conference	
Early Childhood Final Clinical Experience		
ELE 6080	Preprimary Goals and Practices	
TED 5790	Directed Teaching and Conference for Special Groups [7]	

[1] Courses are taken in public schools in the Detroit metropolitan area. All of the courses in the professional sequence must be completed before entering TED 5780.

Early Childhood General and Special Education (non-certification option)

This concentration enables students to qualify for positions in Early Childhood Education (ECE) as lead teachers in infant/toddler and preschool educational settings. Students will earn a Bachelor of Science in Elementary Education with a concentration in Early Childhood General and Special Education. The program is designed for persons interested in working with young children birth-to-five years old and their families. The program is 120 credit hours and the focus of the curriculum is on the growth and development of the young child including children who have developmental delays or disabilities, and the influence of family and society dynamics on the child's development and learning. The ECE curriculum includes the theories, principles, development, and evaluation of relationship-based learning and teaching in early childhood intervention and education settings; as well as assessment and teaching strategies, materials and equipment for physical, social, language/communication, emotional, and intellectual development for all young children. Support systems for children and their families are examined to promote healthy development and learning. A field experience is required.

Code	Title	Credits
General Education Courses (28-34 credit hours) (p. 34)		
Core Courses (23-28 credit hours)		
HIS 1000	World Civilization to 1500	
or HIS 1300	Europe and the World: 1500-1945	
or HIS 1400	The World Since 1945	
HIS 1300	Europe and the World: 1500-1945	
HIS 1400	The World Since 1945	
MAT 1110	Mathematics for Elementary School Teachers I	
MAT 1120	Mathematics for Elementary School Teachers II	
PSY 1010	Introductory Psychology	
or PSY 1020	Elements of Psychology	
PSY 1010	Introductory Psychology	
or PSY 1030	Introductory Psychology Laboratory	
TED 2250	Becoming an Urban Educator	
TED 5790	Directed Teaching and Conference for Special Groups	
Early Childhood Education Courses (30 credit hours)		
ELE 6070	Family, Community and School Partnerships: Supporting Children's Learning	
ELE 6050	Infant and Toddler Development to Inform Relationship-Based Curricula and Interventions	
ELE 6010	Family Centered Collaboration in Early Childhood Intervention and Special Education	
ELE 6020	Seminar in Early Childhood	
ELE 6040	Role of Content Areas in Early Childhood Education	
ELE 6080	Preprimary Goals and Practices	
ELE 6090	Introduction to Infant Mental Health Theory and Practice	
ELE 6100	Planning and Implementing Preschool Curriculum	
ELE 6340	Teaching Reading in Early Childhood Education	
SED 6040	Introduction to Early Childhood Special Education	
Electives		
Must be approved by Faculty Advisor (as needed to reach the minimum of 120 credit hours for the degree)		
BBE 5000	Multicultural Education in Urban America	
BIO 1030	Biology Today	
or BIO 1050	An Introduction to Life	
or BIO 1510	Basic Life Mechanisms	
ELE 6200	Children's Literature for Teachers	
ELE 6260	Literacy III	
HIS 2040	American Foundations to 1877	
HIS 2050	Modern America: Since 1877	
HIS 2240	History of Michigan	
PSY 3430	Infant Development	
PSY 3440	Psychology of Child Behavior and Development	
SCE 5010	Biological Sciences for Elementary and Middle School Teachers	
SED 5010	Inclusive Teaching	
KIN 5550	Health and Physical Education for the Elementary School Teacher	

Arabic K-12: Teaching Major

(Minimum 45 credit hours)

Students must score the Intermediate High Level in Arabic, as measured by the Oral Proficiency Interview (OPI) from the American Council on the Teaching of Foreign Languages (ACTFL).

Code	Title	Credits
Content Area Requirements		
ARB 3110	Advanced Arabic I	3
ARB 3120	Advanced Arabic II	3
ARB 3210	Spoken Arabic	3
ARB/NE 5230	Structure of Arabic	3
ARB 5140	Modern Arabic Literature in Arabic and English	3
ARB 5010	Medieval Arabic Texts	3
ARB 5020	Media Arabic	3
ARB 5240	Quranic Arabic	3
NE 3040/ HIS 3320	Twentieth Century Middle East	3
NE/ANT 3550	Arab Society in Transition	3
Methodology Requirements		
LED 6500	Teaching World Languages in Elementary and Middle Schools: Methods III	3
LED 6520	Teaching English as a Second Language/Foreign Language: Methods I	3
LED 6530	Teaching English as a Second Language/Foreign Language: Methods II	3
Additional Requirements		
EDP 5480	Adolescent Psychology	3
RLL 6700	Second Language Literacy Development: K-12	3
Total Credits		45

Arabic: Teaching Major

(Minimum 33 credit hours)

Students must score the Intermediate High Level in Arabic, as measured by the Oral Proficiency Interview (OPI) from the American Council on the Teaching of Foreign Languages (ACTFL).

Code	Title	Credits
Content Area Requirements		
ARB 3110	Advanced Arabic I	3
ARB 3120	Advanced Arabic II	3
ARB 3210	Spoken Arabic	3
ARB/NE 5230	Structure of Arabic	3
ARB 5140	Modern Arabic Literature in Arabic and English	3
ARB 5010	Medieval Arabic Texts	3
ARB 5020	Media Arabic	3
NE 3040/ HIS 3320	Twentieth Century Middle East	3
NE/ANT 3550	Arab Society in Transition	3
Methodology Requirements		
LED 6500	Teaching World Languages in Elementary and Middle Schools: Methods III	3
LED 6520	Teaching English as a Second Language/Foreign Language: Methods I	3
Total Credits		33

Early Childhood Education: Teaching Major

(Minimum 33 credit hours)

Code	Title	Credits
ELE 6010	Family Centered Collaboration in Early Childhood Intervention and Special Education	3
or ELE 6060	Community Contacts: Working with Families in Urban Settings	
ELE 6020	Seminar in Early Childhood	3
ELE 6040	Role of Content Areas in Early Childhood Education	3
ELE 6050	Infant and Toddler Development to Inform Relationship-Based Curricula and Interventions	3
ELE 6070	Family, Community and School Partnerships: Supporting Children's Learning	3
ELE 6080	Preprimary Goals and Practices	3
ELE 6090	Introduction to Infant Mental Health Theory and Practice	3
ELE 6100	Planning and Implementing Preschool Curriculum	3
ELE 6200	Children's Literature for Teachers	3
ELE 6340	Teaching Reading in Early Childhood Education	3
SED 6040	Introduction to Early Childhood Special Education	3
Total Credits		33

French K-12: Teaching Major

(Minimum 45 credit hours)

Students must score at the Advanced Low Level in French, as measured by the Oral Proficiency Interview (OPI) from the American Council on the Teaching of Foreign Languages (ACTFL)

French: Teaching Major

(Minimum 36 credit hours)

Students must score at the Advanced Low Level in French, as measured by the Oral Proficiency Interview (OPI) from the American Council on the Teaching of Foreign Languages (ACTFL)

Integrated Science: Teaching Major

Code	Title	Credits
AST 2010	Descriptive Astronomy	4
AST 2011	Descriptive Astronomy Laboratory	1
BIO 1500	Basic Life Diversity	4
CHM 1000	Chemistry and Your World	4
CHM 1020	Survey of General Chemistry	4
GEL 1010	Geology: The Science of the Earth	3
GEL 1011	Geology: The Science of the Earth Laboratory	1
PHY 1020	Conceptual Physics: The Basic Science	4
SCE 5010	Biological Sciences for Elementary and Middle School Teachers	3
SCE 5020	Physical Sciences for Elementary and Middle School Teachers	3
SCE 5030	Earth/Space Science for Elementary and Middle School Teachers	3
SCE 6010	Safety in the Science Classroom	2
Total Credits		36

Language Arts: Teaching Major

(Minimum 36 credit hours)

Code	Title	Credits
COM 1500	Survey of Mass Communication	3
EED 6210	Language, Literacy, and Learning	3
EED 6310	Young Adult Literature	3
ELE 6200	Children's Literature for Teachers	3
Select one of the following:		3
ENG 2390	Introduction to African-American Literature: Literature and Writing	
ENG 3470	Survey of African-American Literature	
ENG 5480	Topics in African American Literature	
ENG 3800	Introduction to Creative Writing	3
ENG 3010	Intermediate Writing	3
ENG 3110	English Literature to 1700	3
ENG 3120	English Literature after 1700	3
ENG 3130	American Literature to 1865	3
or ENG 3140	American Literature after 1865	
ENG 3700	Structure of English	3
Additional Coursework		3
Total Credits		36

Mathematics: Teaching Major

(Minimum 32 credit hours)

Code	Title	Credits
MAE 5100/ MAT 5180	Geometry for Middle School Teachers	3
MAE 5110/ MAT 5190	Number Theory for Middle School Teachers	3
MAE/MAT 5120	Abstract Algebra for Middle School Teachers	3
MAE 5130	Problem Solving for Middle School Teachers	3
MAT 1110	Mathematics for Elementary School Teachers I	3
MAT 1120	Mathematics for Elementary School Teachers II	3
MAT 1800	Elementary Functions	4
MAT 2010	Calculus I	4
MAT 2860	Discrete Mathematics	3
STA 1020	Elementary Statistics	3-4
or STA 2210	Probability and Statistics	
Total Credits		32-33

Social Studies: Teaching Major

(Minimum 38 credit hours)

Code	Title	Credits
ECO 2010	Principles of Microeconomics	4
ECO 2020	Principles of Macroeconomics	4
GPH 1100	World Regional Patterns	4
GPH 2200	Geography of Michigan	3
HIS 1000	World Civilization to 1500	4
HIS 2040	American Foundations to 1877	3-4
HIS 2050	Modern America: Since 1877	3-4
PS 1010	American Government	3-4
or PS 1030	The American Governmental System	
PS 3070	Michigan Politics	4
SSE 5720	Social Studies Disciplines for Elementary Teachers	3
SSE 6720	Teaching the Interdisciplinary Knowledge of Social Studies	3
Total Credits		38-41

Spanish K-12: Teaching Major

(Minimum 45 credit hours)

Students must score at the Advanced Low Level in Spanish, as measured by the Oral Proficiency Interview (OPI) from the American Council on the Teaching of Foreign Languages (ACTFL)

Code	Title	Credits
Content Area Requirements		
SPA 3025	Cultural Connections, Grammar and Composition II	3
SPA 3200	Conversation	3
SPA 3300	Introduction to Cultural and Literary Analysis	3
SPA 4610	Introduction to Early Modern Spanish Literature	3
or SPA 4620	Introduction to Modern and Contemporary Spanish Literature	
SPA 4630	Introduction to Colonial Latin American Literature	3
or SPA 4640	Introduction to Modern and Contemporary Latin American Literature	
SPA 5100	Advanced Composition	3
SPA 5200	Spanish Phonetics	3
Select one of the following:		3
SPA 5550	Spanish Culture and Its Tradition	
SPA 5560	Spanish American Cultures and their Traditions	
SPA 5570	Topics in Hispanic Culture or Language	
SPA 6400	Introduction to Hispanic Linguistics	3
SPA 6560	Cervantes	3
or SPA 6620	Latin American Novel in the 20th and 21st Centuries	
Methodology Requirements		
LED 6500	Teaching World Languages in Elementary and Middle Schools: Methods III	3
LED 6520	Teaching English as a Second Language/Foreign Language: Methods I	3
LED 6530	Teaching English as a Second Language/Foreign Language: Methods II	3
Additional Requirements		
EDP 5480	Adolescent Psychology	3
RLL 6700	Second Language Literacy Development: K-12	3
Total Credits		45

Spanish: Teaching Major

(Minimum 36 credit hours)

Students must score at the Advanced Low Level in Spanish, as measured by the Oral Proficiency Interview (OPI) from the American Council on the Teaching of Foreign Languages (ACTFL)

Code	Title	Credits
Content Area Requirements		
SPA 3025	Cultural Connections, Grammar and Composition II	3
SPA 3200	Conversation	3
SPA 3300	Introduction to Cultural and Literary Analysis	3
SPA 4610	Introduction to Early Modern Spanish Literature	3

or SPA 4620	Introduction to Modern and Contemporary Spanish Literature	
SPA 4630	Introduction to Colonial Latin American Literature	3
or SPA 4640	Introduction to Modern and Contemporary Latin American Literature	
SPA 5100	Advanced Composition	3
SPA 5200	Spanish Phonetics	3
Select one of the following:		3
SPA 5550	Spanish Culture and Its Tradition	
SPA 5560	Spanish American Cultures and their Traditions	
SPA 5570	Topics in Hispanic Culture or Language	
SPA 6400	Introduction to Hispanic Linguistics	3
SPA 6560	Cervantes	3
or SPA 6620	Latin American Novel in the 20th and 21st Centuries	
Methodology Requirements		
LED 6500	Teaching World Languages in Elementary and Middle Schools: Methods III	3
LED 6520	Teaching English as a Second Language/Foreign Language: Methods I	3
Total Credits		36

Arabic: Teaching Minor

(Minimum 27 credit hours)

Students must score the Intermediate High Level in Arabic, as measured by the Oral Proficiency Interview (OPI) from the American Council on the Teaching of Foreign Languages (ACTFL).

Code	Title	Credits
Content Area Requirements		
ARB 3110	Advanced Arabic I	3
ARB 3120	Advanced Arabic II	3
ARB 3210	Spoken Arabic	3
ARB/NE 5230	Structure of Arabic	3
ARB 5140	Modern Arabic Literature in Arabic and English	3
NE 3040/ HIS 3320	Twentieth Century Middle East	3
NE/ANT 3550	Arab Society in Transition	3
Methodology Requirements		
LED 6500	Teaching World Languages in Elementary and Middle Schools: Methods III	3
LED 6520	Teaching English as a Second Language/Foreign Language: Methods I	3
Total Credits		27

Bilingual-Bicultural Education: Teaching Minor

(Minimum 23 credit hours)

Students must demonstrate superior proficiency (speaking, reading, and writing) in a non-English language as measured by the Oral Proficiency Interview (OPI) and Writing Proficiency Test (WPT) from the American Council on the Teaching of Foreign Languages. (ACTFL).

Code	Title	Credits
BBE 5000	Multicultural Education in Urban America	2
BBE 5500	Introduction to Bilingual/Bicultural Education	3
BBE 6560	Teaching Methods in Bilingual/Bicultural Education	3
BBE 6850	Applied Linguistics: Issues in Bilingual Education	3
BBE 6590	Culture and Language in Bilingual/Bicultural Education	3
LED 6520	Teaching English as a Second Language/Foreign Language: Methods I	3
LED 6555	Integration of Language and Content in Language Teaching	3
RLL 6700	Second Language Literacy Development: K-12	3
Total Credits		23

Note: An internship in Bilingual/Bicultural Teaching (BBE 6600) may be required. Students should consult their advisor for more information.

Early Childhood Education: Teaching Minor

(Minimum 24 credit hours)

Code	Title	Credits
ELE 6020	Seminar in Early Childhood	3
ELE 6040	Role of Content Areas in Early Childhood Education	3
ELE 6050	Infant and Toddler Development to Inform Relationship-Based Curricula and Interventions	3
ELE 6070	Family, Community and School Partnerships: Supporting Children's Learning	3
ELE 6080	Preprimary Goals and Practices	3
ELE 6200	Children's Literature for Teachers	3
ELE 6340	Teaching Reading in Early Childhood Education	3
SED 6040	Introduction to Early Childhood Special Education	3
Total Credits		24

English as a Second Language (ESL): Teaching Minor

(Minimum 23 credits hours)

A major or minor in Language Arts is strongly recommended with an ESL Minor.

Code	Title	Credits
BBE 5000	Multicultural Education in Urban America	2
BBE 6850	Applied Linguistics: Issues in Bilingual Education	3
LED 6510	Second Language Acquisition and the Teaching of Grammar	3
LED 6520	Teaching English as a Second Language/Foreign Language: Methods I	3
LED 6555	Integration of Language and Content in Language Teaching	3
LED 6565	Assessment in Language Teaching	3
LED 6580	Culture as the Basis for Language Teaching	3
RLL 6700	Second Language Literacy Development: K-12	3
Total Credits		23

Note: An internship in Bilingual/Bicultural Teaching (BBE 6600) may be required. Students should consult their advisor for more information.

French: Teaching Minor

(Minimum 27 credit hours)

Students must score at the Advanced Low Level in French, as measured by the Oral Proficiency Interview (OPI) from the American Council on the Teaching of Foreign Languages (ACTFL)

Health: Teaching Minor

(Minimum 21 credit hours)

Code	Title	Credits
HE 3300	Health of the School Child	3
HE 3330	Methods in Teaching Health	3
HE 3440	Nutrition and Health Education	3
or KHS 6540	Workshop in Kinesiology, Health and Sport Studies	
HE 4340	Family and Reproductive Health	3
HE 5440	Mental Health and Substance Abuse	3
HE 5620	Performance Based Assessment in Health Education	3
HE 6430	School Health Curriculum	3
Total Credits		21

Integrated Science: Teaching Minor

(Minimum 29 credit hours)

Code	Title	Credits
AST 2010	Descriptive Astronomy	4
AST 2011	Descriptive Astronomy Laboratory	1
BIO 1050	An Introduction to Life	4
CHM 1000	Chemistry and Your World	4
GEL 1010	Geology: The Science of the Earth	3
GEL 1011	Geology: The Science of the Earth Laboratory	1
PHY 1020	Conceptual Physics: The Basic Science	4
SCE 5010	Biological Sciences for Elementary and Middle School Teachers	3
SCE 5020	Physical Sciences for Elementary and Middle School Teachers	3
SCE 6010	Safety in the Science Classroom	2
Total Credits		29

Language Arts: Teaching Minor

(Minimum 24 credit hours)

Code	Title	Credits
COM 1500	Survey of Mass Communication	3
EED 6210	Language, Literacy, and Learning	3
ELE 6200	Children's Literature for Teachers	3
Select one of the following:		3
ENG 2390	Introduction to African-American Literature: Literature and Writing	
ENG 3470	Survey of African-American Literature	
ENG 5480	Topics in African American Literature	
ENG 3800	Introduction to Creative Writing	3
ENG 3010	Intermediate Writing	3
ENG 3130	American Literature to 1865	3
or ENG 3140	American Literature after 1865	
Additional Coursework		3
Total Credits		24

Mathematics: Teaching Minor

(Minimum 23 credit hours)

Code	Title	Credits
MAE 5100/ MAT 5180	Geometry for Middle School Teachers	3
MAE 5110/ MAT 5190	Number Theory for Middle School Teachers	3
MAE/MAT 5120	Abstract Algebra for Middle School Teachers	3
MAT 1110	Mathematics for Elementary School Teachers I	3
MAT 1120	Mathematics for Elementary School Teachers II	3
MAT 1800	Elementary Functions	4
MAT 2010	Calculus I	4
Total Credits		23

Physical Education: Teaching Minor

(Minimum 27 credit hours)

Code	Title	Credits
KIN 5100	Anatomical and Physiological Bases of Physical Activity	3
KIN 5110	Motor Learning and Development	3
KIN 5200	Effective Teaching and Instructional Practices	3
KIN 5210	Movement Education	3
KIN 5220	Sports I	3
Select one of the following:		3
KIN 5230	Sports II	
KIN 5250	Adventure and Outdoor Pursuits	
KIN 5260	Aquatic Leadership	
KIN 5240	Fitness Instruction	3
KIN 5400	Adapted Physical Activity	3
KIN 5530	Technology and Assessment in Kinesiology	3
Total Credits		27

Spanish: Teaching Minor

(Minimum 27 credit hours)

Students must score at the Advanced Low Level in Spanish, as measured by the Oral Proficiency Interview (OPI) from the American Council on the Teaching of Foreign Languages (ACTFL)

Code	Title	Credits
Content Area Requirements		
SPA 3025	Cultural Connections, Grammar and Composition II	3
SPA 3200	Conversation	3
SPA 3300	Introduction to Cultural and Literary Analysis	3
SPA 4610	Introduction to Early Modern Spanish Literature	3
or SPA 4620	Introduction to Modern and Contemporary Spanish Literature	
SPA 4630	Introduction to Colonial Latin American Literature	3
or SPA 4640	Introduction to Modern and Contemporary Latin American Literature	
SPA 5100	Advanced Composition	3
SPA 5200	Spanish Phonetics	3
Methodology Requirements		

LED 6500	Teaching World Languages in Elementary and Middle Schools: Methods III	3
LED 6520	Teaching English as a Second Language/Foreign Language: Methods I	3
Total Credits		27

Bachelor of Science in Education - Secondary Education

Education (Secondary) Leading to Grades 6 - 12 Certification (Bachelor's Degree Programs)

The secondary education curriculum leads to a bachelor's degree in education and secondary school teaching certification in the major and minor areas listed below. Whereas this degree is granted by the College of Education, students also have the option of earning secondary school certification in conjunction with a bachelor's degree from the College of Fine, Performing and Communication Arts or the College of Liberal Arts and Sciences. For information regarding these combined degree programs, see an advisor. No grade below 'C' may be used to meet requirements specific to secondary education, the major, the minor (including the planned minor), or professional education courses; a grade of 'C-minus' is not acceptable.

All students must complete the College Requirements, Level 2 Education Requirements, a major area of study, and a minor area of study as outlined below. Students who select one of the following majors are not required to select a minor: Business, Management, Marketing and Technology Comprehensive Major; Social Studies Comprehensive Major; and Visual Arts.

Admission: Level 1

Entry to the College of Education

All students intending to pursue a teaching curriculum who enter the University directly from high school, or transfer from other colleges are directly admitted by the University Admissions Office (p. 22) into the College of Education in Level 1 status.

Admission: Level 2

Entry to Professional Education Sequence

The standards listed below apply to those students entering the College of Education at Level 2: those working for a secondary or elementary school teaching certificate; those in a combined degree program; and those previously admitted at the freshman or sophomore level to the College of Education.

Eligibility for admission is based on the following criteria:

1. Satisfactory completion of fifty-three semester or eighty quarter credits of course work with an overall grade point average of 2.5 or above. In addition, the grade point average for any courses taken at Wayne State University must be 2.5 or above. This coursework should generally conform to the Level 1 courses prescribed by the College for students who expect to prepare for teaching. The quality of work, especially in the major area, must indicate a strong potential for success in a teacher-education program.
2. Intermediate Composition Competency Requirement: All Education students must satisfactorily complete the University intermediate composition competency (p. 35) requirement prior to admission.
3. Physical Health: Definite standards of health must be met by all students entering the College. All students are required to present a negative tuberculosis (T.B.) test prior to admission.
4. Group Work Experience: All students must have verifiable successful group work (forty hours) experience with children.
5. Criminal History Check: All students must submit a current (within the last six months) statewide criminal history check (http://coe.wayne.edu/pdfs/criminial_history_new.pdf).
6. Elementary Education: Students seeking admission to Elementary Education must complete MAT 1110 and MAT 1120 or have appropriate prerequisite math course in progress.
7. Special Education: Students seeking admission to Special Education must have completed the following courses:

Code	Title	Credits
MAT 1110	Mathematics for Elementary School Teachers I (or have appropriate prerequisite math course in progress)	3
PSY 1010	Introductory Psychology	4
PSY 2400	Developmental Psychology	4
Select one of the following:		3-4
BIO 1030	Biology Today	
BIO 1050	An Introduction to Life	
BIO 1500	Basic Life Diversity	
BIO 1510	Basic Life Mechanisms	
SCE 5010	Biological Sciences for Elementary and Middle School Teachers	

8. Secondary Education: Students seeking admission to Secondary Education must have twelve-semester credits completed in the major
9. Specific Prerequisites or other special requirements of the curriculum area for which the student is applying.

Application for Level 2 Standing

Upon completion of a minimum of fifty-three-semester credits of college coursework and all other Level 2 admission requirements, students should apply for College of Education Level 2 standing. Applicants who have completed college work in institutions other than Wayne State must first apply for admission through the University Office of Admissions (p. 22).

Students who intend to receive degrees from other colleges in the University AND a teaching certificate from the College of Education must apply to the Combined Program through Academic Services, 489 Education Building. All applicants to Level 2 must attend an orientation session.

Level 1 Requirements

The following courses and course options are required of all students seeking secondary (grades 6-12) certification regardless of selection of major or minor studies. Some of these courses may also satisfy the University General Education Requirements (p. 34).

College Requirements

Code	Title	Credits
American Society and Institutions (AI)		
PS 1010	American Government [1]	
or PS 1030	The American Governmental System	
Critical Thinking Competency (CT)		
Foreign Culture (FC)		
Historical Studies (HS)		
Life Sciences (LS) (select two of the following)		
PSY 1010	Introductory Psychology	
or PSY 1020	Elements of Psychology	
BIO 1030	Biology Today	

	or BIO 1050	An Introduction to Life
	or BIO 1510	Basic Life Mechanisms
Oral Communication (OC)		
Philosophy and Letters (PL)		
Physical Sciences (PS)		
Social Sciences (SS)		
Visual and Performing Arts (VP)		
Written Communication (Two Courses)		
	lBasic Composition (BC)	
	Intermediate Composition (IC)	
Secondary Education Requirements (select one of the following)		
	HE 2310	Dynamics of Personal Health
	HE 3300	Health of the School Child
	HE 6500	Comprehensive School Health Education
	LFA 2330	First Aid and CPR
	TED 2250	Becoming an Urban Educator

[1] PS 1030 required for Social Studies majors

Level 2 Education Requirements (Grades 6-12 Certification)

Code	Title	Credits
The following courses are required of all students seeking secondary (grades 6-12) certification. The selection of courses to fulfill the methods requirements is predicated on the student's choice of major/minor.		
The following courses may be taken in Level 1 or 2:		
BBE 5000	Multicultural Education in Urban America	
SED 5010	Inclusive Teaching	
TED 6020	Computer Applications in Teaching I	
The following courses may be elected at any time after admission to Level 2 and must be completed prior to TED 5780:		
EHP 3600	Introduction to the Philosophy of Education	
EDP 5480	Adolescent Psychology	
RLL 6121	Teaching Reading in the Content Areas: Grades 6-12	
TED 5650	Pre-Student Teaching Field Experience for Secondary Majors [3]	
Teaching methods in the major (two courses)		6
Teaching methods in the minor (one course)		3
The Teaching Major and Teaching Minor and the Michigan Test for Teacher Certification (MTTC) subject area tests must be completed prior to student teaching.		
Final clinical experience		
TED 5780	Directed Teaching and Conference	

Biology: Teaching Major

Code	Title	Credits
Content Area Requirements		
BIO 1500	Basic Life Diversity	4
BIO 1510	Basic Life Mechanisms	4
BIO 2200	Introductory Microbiology	5
BIO 2600	Introduction to Cell Biology	3
BIO 2870	Anatomy and Physiology	5
BIO 3070	Genetics	4
BIO 3500	Ecology and the Environment	3
BIO 4200	Evolution	3
Additional Science Requirements		
CHM 1220	General Chemistry I	4
CHM 1230	General Chemistry I Laboratory	1
CHM 6740	Laboratory Safety	2
or SCE 6010	Safety in the Science Classroom	
GEL 1010	Geology: The Science of the Earth	3
GEL 1011	Geology: The Science of the Earth Laboratory	1
PHY 2130	Physics for the Life Sciences I	4
PHY 2131	Physics for the Life Sciences Laboratory	1
Science Elective(s)		5
Additional Mathematics Requirements		
MAT 2010	Calculus I	4
STA 2210	Probability and Statistics	4
Methodology Requirements		
SCE 5060	Methods and Materials of Instruction in Secondary School Science I	3
SCE 5070	Methods and Materials of Instruction in Secondary School Science II	3
Total Credits		66

Business, Management, Marketing and Technology (Comprehensive): Teaching Major

(Minimum 60 credit hours)

Code	Title	Credits
Content Area Requirements		
ACC 3010	Introduction to Financial Accounting	3
ACC 3020	Introduction to Managerial Accounting	3
BLW 2510	Business Law I	3
COM 3300	Business and Professional Presentations	3
ECO 2010	Principles of Microeconomics	3
ECO 2020	Principles of Macroeconomics	3
FIN 3050	Personal Financial Planning	3
ISM 5994	Software Tools for Business Applications	3
MAT 1500	College Algebra for the Social and Management Sciences	3
MGT 2530	Management of Organizational Behavior	3
MGT 5650	The Entrepreneur and Venture Creation	3
MKT 2300	Marketing Management	3
MKT 5450	Consumer Behavior	3
MKT 5490	Principles of Advertising	3
MKT 5850	Integrated Marketing Communications Strategy	3
CSC 1000	Introduction to Computer Science	3
GSC 3600	Operations and Supply Chain Management	3
MGT 5700	Human Resource Management	3
Methodology Requirements		
CTE 5501	Instructional Practices for the Teacher Cadet Classroom - Module 1	1
CTE 5502	Instructional Practices for the Teacher Cadet Classroom - Module 2	1
CTE 5503	Instructional Practices for the Teacher Cadet Classroom - Module 3	1
CTE 5504	Instructional Practices for the Teacher Cadet Classroom - Module 4	1

CTE 5505	Instructional Practices for the Teacher Cadet Classroom - Module 5	1
CTE 5506	Instructional Practices for the Teacher Cadet Classroom - Module 6	1
Total Credits		60

Business, Management, Marketing and Technology (Group): Teaching Major

(Minimum 48 credit hours)

Code	Title	Credits
Content Area Requirements		
ACC 3010	Introduction to Financial Accounting	3
ACC 3020	Introduction to Managerial Accounting	3
BLW 2510	Business Law I	3
COM 3300	Business and Professional Presentations	3
ECO 2010	Principles of Microeconomics	3
ECO 2020	Principles of Macroeconomics	3
FIN 3050	Personal Financial Planning	3
ISM 5994	Software Tools for Business Applications	3
MAT 1500	College Algebra for the Social and Management Sciences	3
MGT 2530	Management of Organizational Behavior	3
MGT 5650	The Entrepreneur and Venture Creation	3
MKT 2300	Marketing Management	3
MKT 5450	Consumer Behavior	3
MKT 5490	Principles of Advertising	3
or MKT 5850	Integrated Marketing Communications Strategy	
Methodology Requirements		
CTE 5501	Instructional Practices for the Teacher Cadet Classroom - Module 1	1
CTE 5502	Instructional Practices for the Teacher Cadet Classroom - Module 2	1
CTE 5503	Instructional Practices for the Teacher Cadet Classroom - Module 3	1
CTE 5504	Instructional Practices for the Teacher Cadet Classroom - Module 4	1
CTE 5505	Instructional Practices for the Teacher Cadet Classroom - Module 5	1
CTE 5506	Instructional Practices for the Teacher Cadet Classroom - Module 6	1
Total Credits		48

Chemistry: Teaching Major

Code	Title	Credits
Content Area Requirements		
CHM 1220	General Chemistry I	4
CHM 1230	General Chemistry I Laboratory	1
CHM 1240	Organic Chemistry I	4
CHM 1250	Organic Chemistry I Laboratory	1
CHM 2220	Organic Chemistry II	4
CHM 2230	Organic Chemistry II Laboratory	1
CHM 2280	General Chemistry II: Analytical Chemistry	3
CHM 2290	General Chemistry II: Analytical Chemistry Laboratory	2
CHM 3020	Intermediate Inorganic Chemistry I	3
CHM 5400	Biological Physical Chemistry	4
CHM 5550	Physical Chemistry Laboratory	2
CHM 5600	Survey of Biochemistry	3
CHM 6740	Laboratory Safety	2
or SCE 6010	Safety in the Science Classroom	
Additional Science Requirements		
BIO 1050	An Introduction to Life	4
GEL 1010	Geology: The Science of the Earth	3
GEL 1011	Geology: The Science of the Earth Laboratory	1
PHY 2130	Physics for the Life Sciences I	4
PHY 2131	Physics for the Life Sciences Laboratory	1
Science Elective(s)		4
Additional Mathematics Requirements		
MAT 2010	Calculus I	4
STA 2210	Probability and Statistics	4
Methodology Requirements		
SCE 5060	Methods and Materials of Instruction in Secondary School Science I	3
SCE 5070	Methods and Materials of Instruction in Secondary School Science II	3
Total Credits		65

Earth/Space Science: Teaching Major

Code	Title	Credits
Content Area Requirements		
GEL 1010	Geology: The Science of the Earth	3
GEL 1011	Geology: The Science of the Earth Laboratory	1
GEL 1020	Interpreting the Earth	4
GEL 1370	Meteorology: The Study of Weather	3
GEL 2130	Mineralogy	4
GEL 3160	Petrology	4
GEL 3300	Structural Geology	4
GEL 3400	Principles of Sedimentology and Stratigraphy	4
GEL 5200 Oceanography for Educators		4
AST 2010	Descriptive Astronomy	4
AST 2011	Descriptive Astronomy Laboratory	1
Additional Science Requirements		
BIO 1050	An Introduction to Life	4
CHM 1220	General Chemistry I	4
CHM 1230	General Chemistry I Laboratory	1
CHM 6740	Laboratory Safety	2
or SCE 6010	Safety in the Science Classroom	
PHY 2130	Physics for the Life Sciences I	4
PHY 2131	Physics for the Life Sciences Laboratory	1
Additional Mathematics Requirements		
MAT 2010	Calculus I	4
STA 2210	Probability and Statistics	4
Methodology Requirements		
SCE 5060	Methods and Materials of Instruction in Secondary School Science I	3
SCE 5070	Methods and Materials of Instruction in Secondary School Science II	3
Total Credits		66

Economics: Teaching Major

(Minimum 36 credit hours)

Courses include:

Code	Title	Credits
Content Area Requirements		
ECO 2010	Principles of Microeconomics	4
ECO 2020	Principles of Macroeconomics	4
ECO 5100	Introductory Statistics and Econometrics	4
ECO 5300	International Trade	4
or ECO 5310	International Finance	
ECO 5400	Labor Economics	4
Economics Elective at or above the 5000 level		4
Economics Elective at or above the 5000 level		4
Methodology Requirements		
SSE 6710	Methods and Materials of Instruction in Secondary Social Studies	3
SSE 6730	New Perspectives in Social Studies Education	3

English: Teaching Major

(Minimum 36 credit hours)

Code	Title	Credits
Content Area Requirements		
ENG 2200	Shakespeare	3
ENG/AFS 2390	Introduction to African-American Literature: Literature and Writing	3
ENG 3110	English Literature to 1700	3
ENG 3120	English Literature after 1700	3
ENG 3130	American Literature to 1865	3
ENG 3140	American Literature after 1865	3
ENG 5420	American Literature: 1865-1914	3
or ENG 5450	Modern American Literature	
ENG 5720	Linguistics and Education	3
ENG 5730	English Grammar	3
ENG 6010	Tutoring Practicum	3
Methodology Requirements		
EED 5200	Methods of Teaching English: Grades 7-12	3
EED 6120	English Composition in Secondary Schools	3
or EED 6330	Teaching Literature in Secondary Schools	
Total Credits		36

History: Teaching Major

(Minimum 36 credit hours)

Code	Title	Credits
Content Area Requirements		
HIS 1000	World Civilization to 1500	3-4
HIS 1300	Europe and the World: 1500-1945	3-4
HIS 1400	The World Since 1945	3-4
HIS 2040	American Foundations to 1877	3-4
HIS 2050	Modern America: Since 1877	3-4
HIS 2240	History of Michigan	3-4
HIS 3140	African American History I: 1400-1865	3-4
HIS 3150	African American History II: 1865-1968	3-4
History Elective at or above the 3000 level		3
History Elective at or above the 3000 level		3
Methodology Requirements		
SSE 6710	Methods and Materials of Instruction in Secondary Social Studies	3
SSE 6730	New Perspectives in Social Studies Education	3
Total Credits		36-44

Integrated Science: Teaching Major

Integrated Science is defined by the Michigan Department of Education as a comprehensive major: A teaching minor is not required.

Code	Title	Credits
Content Area Requirements		
Biology (five courses for twenty credits)		
BIO 1500	Basic Life Diversity	4
BIO 1510	Basic Life Mechanisms	4
BIO 2200	Introductory Microbiology	5
BIO 3070	Genetics	4
BIO 4120	Comparative Physiology	4
Chemistry (four courses, plus labs for seventeen credits)		
CHM 1220 & CHM 1230	General Chemistry I and General Chemistry I Laboratory	5
CHM 1240 & CHM 1250	Organic Chemistry I and Organic Chemistry I Laboratory	5
CHM 2220 & CHM 2230	Organic Chemistry II and Organic Chemistry II Laboratory	5
CHM 6740	Laboratory Safety	2
or SCE 6010	Safety in the Science Classroom	
Physics (three courses, plus corequisite labs for twelve credits)		
PHY 2130 & PHY 2131	Physics for the Life Sciences I and Physics for the Life Sciences Laboratory	5
PHY 2140 & PHY 2141	Physics for the Life Sciences II and Physics for the Life Sciences Laboratory	5
PHY 5015 & PHY 3310	Non-classical Physics for Educators and Introductory Modern Physics Laboratory	5
Earth/Space Science (three courses, plus lab for twelve credits)		
AST 2010 & AST 2011	Descriptive Astronomy and Descriptive Astronomy Laboratory	5
GEL 1010	Geology: The Science of the Earth	3
GEL 1011	Geology: The Science of the Earth Laboratory	1
GEL 1370	Meteorology: The Study of Weather	3
Additional Requirements		
MAT 1800	Elementary Functions	4
Elective in: Mathematics or Computer Science		2
Methodology Requirements		
SCE 5060	Methods and Materials of Instruction in Secondary School Science I	3
SCE 6030	Advanced Studies in Teaching Science in the Junior High and Middle School	3
Total Credits		77

Marketing Education: Teaching Major

(Minimum 36 credit hours)

Code	Title	Credits
Content Area Requirements		
MGT 5650	The Entrepreneur and Venture Creation	3

ECO 2010	Principles of Microeconomics	3
ECO 2020	Principles of Macroeconomics	3
MKT 2300	Marketing Management	3
COM 3300	Business and Professional Presentations	3
MKT 5450	Consumer Behavior	3
MKT 5460	Sales Management	3
MKT 5490	Principles of Advertising	3
MKT 5700	Retail Management	3
MKT 5410	Marketing Research and Analysis	3
Methodology Requirements		
CTE 5501	Instructional Practices for the Teacher Cadet Classroom - Module 1	1
CTE 5502	Instructional Practices for the Teacher Cadet Classroom - Module 2	1
CTE 5503	Instructional Practices for the Teacher Cadet Classroom - Module 3	1
CTE 5504	Instructional Practices for the Teacher Cadet Classroom - Module 4	1
CTE 5505	Instructional Practices for the Teacher Cadet Classroom - Module 5	1
CTE 5506	Instructional Practices for the Teacher Cadet Classroom - Module 6	1
Total Credits		36

Mathematics: Teaching Major

(Minimum 47 credit hours)

Code	Title	Credits
Content Area Requirements		
MAT 2010	Calculus I	4
MAT 2020	Calculus II	4
MAT 2030	Calculus III	4
STA 2210	Probability and Statistics	4
MAT 2250	Elementary Linear Algebra	3
MAT 2860	Discrete Mathematics	3
MAT 5000	Fundamental Concepts of Mathematics and Proof Writing	3
Select one of the following:		3-4
MAT 5070	Elementary Analysis	
MAT 5400	Elementary Theory of Numbers	
MAT 5520	Introduction to Topology	
MAT 5420	Algebra I	4
or MAT 6170	Algebra: Ring Theory Through Exploration, Conjecture, and Proof	
MAT 6140	Geometry: An Axiomatic Approach	3
MAE/MAT 6200	Teaching Arithmetic, Algebra and Functions from an Advanced Perspective	3
MAE/MAT 6210	Teaching Geometry, Probability and Statistics, and Discrete Mathematics from an Advanced Perspective	3
MAE 5150	Methods and Materials of Instruction: Secondary School Mathematics	3
MAE 6050	Teaching Mathematics in the Middle Grades	3
Total Credits		47-48

Physics: Teaching Major

Code	Title	Credits
Content Area Requirements		
PHY 2170	University Physics for Scientists I	4
PHY 2171	University Physics Laboratory	1
PHY 2180	University Physics for Scientists II	4
PHY 2181	University Physics Laboratory II	1
PHY 3300	Introductory Modern Physics	3
PHY 3310	Introductory Modern Physics Laboratory	2
PHY 5200	Classical Mechanics I	3
PHY 5340	Optics	3
PHY 5341	Optics Laboratory	2
PHY 5620	Electronics and Electrical Measurements	3
PHY 6600	Electromagnetic Fields I	3
Additional Science Requirements		
BIO 1050	An Introduction to Life	4
CHM 1220	General Chemistry I	4
CHM 1230	General Chemistry I Laboratory	1
CHM 6740	Laboratory Safety	2
or SCE 6010	Safety in the Science Classroom	
GEL 1010	Geology: The Science of the Earth	3
GEL 1011	Geology: The Science of the Earth Laboratory	1
Science Elective(s)		4
Additional Mathematics Requirements		
MAT 2010	Calculus I	4
STA 2210	Probability and Statistics	4
Methodology Requirements		
SCE 5060	Methods and Materials of Instruction in Secondary School Science I	3
SCE 5070	Methods and Materials of Instruction in Secondary School Science II	3
Total Credits		62

Political Science: Teaching Major

(Minimum 36 credit hours)

Code	Title	Credits
Content Area Requirements		
PS 1010	American Government	4
PS 2710	Introduction to Comparative Politics	4
PS 2810	World Politics	4
PS 3020	Political Parties and Elections	4
PS 3070	Michigan Politics	4
PS 5120	Constitutional Rights and Liberties	4
Political Science Elective at or above the 3000 level		3
Political Science Elective at or above the 3000 level		3
Methodology Requirements		
SSE 6710	Methods and Materials of Instruction in Secondary Social Studies	3
SSE 6730	New Perspectives in Social Studies Education	3
Total Credits		36

Social Studies (Comprehensive): Teaching Major

(Minimum 60 credit hours)

A comprehensive major, as defined by the Michigan Department of Education, does not require a teaching minor. Courses include:

Code	Title	Credits
Content Area Requirements		
ECO 2010	Principles of Microeconomics	3
ECO 2020	Principles of Macroeconomics	3
GPH 1100	World Regional Patterns	4
GPH 2000	Introduction to Urban Studies	4
GPH 2200	Geography of Michigan	3
HIS 1000	World Civilization to 1500	3
HIS 1300	Europe and the World: 1500-1945	3
HIS 1400	The World Since 1945	3
HIS 2040	American Foundations to 1877	3
HIS 2050	Modern America: Since 1877	3
HIS 2240	History of Michigan	3
PS 1010	American Government	4
PS 2420	Ethics and Politics of Public Policy	4
PS 2820	Introduction to Peace and Conflict Studies	3
PS 3070	Michigan Politics	4
Methodology Requirements		
SSE 6710	Methods and Materials of Instruction in Secondary Social Studies	3
SSE 6730	New Perspectives in Social Studies Education	3

Social Studies (Group): Teaching Major

(Minimum 42 credit hours)

Code	Title	Credits
Content Area Requirements		
ECO 2010	Principles of Microeconomics	3-4
ECO 2020	Principles of Macroeconomics	3-4
GPH 1100	World Regional Patterns	4
GPH 2200	Geography of Michigan	3
HIS 1000	World Civilization to 1500	3-4
HIS 1300	Europe and the World: 1500-1945	3-4
HIS 2040	American Foundations to 1877	3-4
HIS 2050	Modern America: Since 1877	3-4
HIS 2240	History of Michigan	3-4
PS 1010	American Government	4
PS 3070	Michigan Politics	4
Methodology Requirements		
SSE 6710	Methods and Materials of Instruction in Secondary Social Studies	3
SSE 6730	New Perspectives in Social Studies Education	3
Total Credits		42-49

Speech: Teaching Major

(Minimum 39 credit hours)

Code	Title	Credits
Content Area Requirements		
COM 1010	Oral Communication: Basic Speech	3
COM 1500	Survey of Mass Communication	3
COM 2000	Introduction to Communication Studies	3
COM 2110	Argumentation and Debate	3
COM 2200	Interpersonal Communication	3
Select one of the following:		3
COM 1600	Introduction to Audio-Television-Film Production	
COM 2280	Digital Photojournalism	
COM 5300	Layout and Design	
COM 4270	Group Communication	3
COM 3400	Theories of Communication	3
COM 4130	Communication Ethics	3
COM 4300	Intercultural Communication	3
COM 6070	Directing Forensics	3
Methodology Requirements		
COM 6060	Teaching Communication at the Secondary Level	3
EED 6210	Language, Literacy, and Learning	3
Total Credits		39

Trade and Industry: Teaching Major

(Minimum 36 credit hours)

Requires a second academic teaching major; a teaching minor is not required.

Code	Title	Credits
Content Area Requirements		
The required coursework varies by the specific occupational area. Examples of occupational areas include: Drafting & Design Technology, Construction Trades, Automobile Technician, Machine Tool Operations/Machine Shop, Welding, Woodworking General, etc… See an advisor for more information.		
Methodology Requirements		
CTE 5501	Instructional Practices for the Teacher Cadet Classroom - Module 1	1
CTE 5502	Instructional Practices for the Teacher Cadet Classroom - Module 2	1
CTE 5503	Instructional Practices for the Teacher Cadet Classroom - Module 3	1
CTE 5504	Instructional Practices for the Teacher Cadet Classroom - Module 4	1
CTE 5505	Instructional Practices for the Teacher Cadet Classroom - Module 5	1
CTE 5506	Instructional Practices for the Teacher Cadet Classroom - Module 6	1

Visual Arts Education: Teaching Major

(Minimum of 57 credit hours in Foundation, Intermediate, Advanced Studio/ Methodology courses; Minimum of 23 credit hours in Professional Education and Student Teaching courses)

A comprehensive major, as defined by the Michigan Department of Education, does not require a teaching minor.

This program is designed to provide professional preparation for individuals who seek K-12 certification in visual arts education. Students in this program receive the Michigan Secondary Provisional Teaching Certificate. It is recommended that students plan their coursework in

advance with an advisor as accurately as possible to avoid extra courses or conflicts.

The program for visual arts education consists of University General Education Requirements (Competency Requirements and Group Requirements) for which see General Education Program: College Requirements; a teaching major of visual arts education with foundational, intermediate, and advanced studio coursework; and a sequence of professional education courses including one semester of half-day student teaching and one semester of full-day student teaching. The policy of the College of Education is to provide teaching experiences in both an urban and a suburban setting.

For specific course selections students should consult the College of Education advisor in room 469, Education Building.

Arabic: Teaching Minor

(Minimum 27 credit hours)

Students must score the Intermediate High Level in Arabic, as measured by the Oral Proficiency Interview (OPI) from the American Council on the Teaching of Foreign Languages (ACTFL).

Code	Title	Credits
Content Area Requirements		
ARB 3110	Advanced Arabic I	3
ARB 3120	Advanced Arabic II	3
ARB 3210	Spoken Arabic	3
ARB/NE 5230	Structure of Arabic	3
ARB 5140	Modern Arabic Literature in Arabic and English	3
NE 3040/ HIS 3320	Twentieth Century Middle East	3
NE/ANT 3550	Arab Society in Transition	3
Methodology Requirements		
LED 6500	Teaching World Languages in Elementary and Middle Schools: Methods III	3
LED 6520	Teaching English as a Second Language/Foreign Language: Methods I	3
Total Credits		27

Bilingual-Bicultural Education: Teaching Minor

(Minimum 23 credit hours)

Students must demonstrate superior proficiency (speaking, reading, and writing) in a non-English language as measured by the Oral Proficiency Interview (OPI) and Writing Proficiency Test (WPT) from the American Council on the Teaching of Foreign Languages. (ACTFL).

Code	Title	Credits
BBE 5000	Multicultural Education in Urban America	2
BBE 5500	Introduction to Bilingual/Bicultural Education	3
BBE 6560	Teaching Methods in Bilingual/Bicultural Education	3
BBE 6850	Applied Linguistics: Issues in Bilingual Education	3
BBE 6590	Culture and Language in Bilingual/Bicultural Education	3
LED 6520	Teaching English as a Second Language/Foreign Language: Methods I	3
LED 6555	Integration of Language and Content in Language Teaching	3
RLL 6700	Second Language Literacy Development: K-12	3
Total Credits		23

Note: An internship in Bilingual/Bicultural Teaching (BBE 6600) may be required. Students should consult their advisor for more information.

Biology Teaching Minor

Code	Title	Credits
Content Area Requirements		
BIO 1500	Basic Life Diversity	4
BIO 1510	Basic Life Mechanisms	4
BIO 2200	Introductory Microbiology	5
BIO 2870	Anatomy and Physiology	5
BIO 3070	Genetics	4
Additional Science Requirements		
CHM 6740	Laboratory Safety	2
or SCE 6010	Safety in the Science Classroom	
Additional Mathematics Requirements		
MAT 1800	Elementary Functions	4
Methodology Requirements		
SCE 5060	Methods and Materials of Instruction in Secondary School Science I	3
Total Credits		31

Chemistry: Teaching Minor

(Minimum 29 credit hours)

Code	Title	Credits
Content Area Requirements		
CHM 1220	General Chemistry I	4
CHM 1230	General Chemistry I Laboratory	1
CHM 1240	Organic Chemistry I	4
CHM 1250	Organic Chemistry I Laboratory	1
CHM 2220	Organic Chemistry II	4
CHM 2230	Organic Chemistry II Laboratory	1
CHM 2280	General Chemistry II: Analytical Chemistry	3
CHM 2290	General Chemistry II: Analytical Chemistry Laboratory	2
CHM 6740	Laboratory Safety	2
or SCE 6010	Safety in the Science Classroom	
Additional Mathematics Requirements		
MAT 1800	Elementary Functions	4
Methodology Requirements		
SCE 5060	Methods and Materials of Instruction in Secondary School Science I	3
Total Credits		29

Earth/Space Science: Teaching Minor

(Minimum 33 credit hours)

Code	Title	Credits
Content Area Requirements		
GEL 1010	Geology: The Science of the Earth	3
GEL 1011	Geology: The Science of the Earth Laboratory	1
GEL 1020	Interpreting the Earth	4
GEL 1370	Meteorology: The Study of Weather	3
GEL 2130	Mineralogy	4

GEL 3160	Petrology	4
or GEL 3400	Principles of Sedimentology and Stratigraphy	
AST 2010	Descriptive Astronomy	4
AST 2011	Descriptive Astronomy Laboratory	1
Additional Science Requirements		
CHM 6740	Laboratory Safety	2
or SCE 6010	Safety in the Science Classroom	
Additional Mathematics Requirements		
MAT 1800	Elementary Functions	4
Methodology Requirements		
SCE 5060	Methods and Materials of Instruction in Secondary School Science I	3
Total Credits		33

Economics: Teaching Minor

(Minimum 27 credit hours)

Courses include:

Code	Title	Credits
Content Area Requirements		
ECO 2010	Principles of Microeconomics	4
ECO 2020	Principles of Macroeconomics	4
ECO 5300	International Trade	4
or ECO 5310	International Finance	
ECO 5400	Labor Economics	4
Economics Elective at or above the 5000 level		3
Methodology Requirements		
SSE 6710	Methods and Materials of Instruction in Secondary Social Studies	3
SSE 6730	New Perspectives in Social Studies Education	3

English as a Second Language (ESL): Teaching Minor

(Minimum 23 credits hours)

A major or minor in Language Arts is strongly recommended with an ESL Minor.

Code	Title	Credits
BBE 5000	Multicultural Education in Urban America	2
BBE 6850	Applied Linguistics: Issues in Bilingual Education	3
LED 6510	Second Language Acquisition and the Teaching of Grammar	3
LED 6520	Teaching English as a Second Language/Foreign Language: Methods I	3
LED 6555	Integration of Language and Content in Language Teaching	3
LED 6565	Assessment in Language Teaching	3
LED 6580	Culture as the Basis for Language Teaching	3
RLL 6700	Second Language Literacy Development: K-12	3
Total Credits		23

Note: An internship in Bilingual/Bicultural Teaching (BBE 6600) may be required. Students should consult their advisor for more information.

English: Teaching Minor

(Minimum 27 credit hours)

Code	Title	Credits
Content Area Requirements		
ENG 2200	Shakespeare	3
ENG/AFS 2390	Introduction to African-American Literature: Literature and Writing	3
ENG 3110	English Literature to 1700	3
or ENG 3120	English Literature after 1700	
ENG 3130	American Literature to 1865	3
or ENG 3140	American Literature after 1865	
ENG 5420	American Literature: 1865-1914	3
or ENG 5450	Modern American Literature	
ENG 5720	Linguistics and Education	3
ENG 5730	English Grammar	3
ENG 6010	Tutoring Practicum	3
Methodology Requirements		
EED 5200	Methods of Teaching English: Grades 7-12	3
Total Credits		27

French: Teaching Minor

(Minimum 27 credit hours)

Students must score at the Advanced Low Level in French, as measured by the Oral Proficiency Interview (OPI) from the American Council on the Teaching of Foreign Languages (ACTFL)

Health: Teaching Minor

(Minimum 21 credit hours)

Code	Title	Credits
HE 3300	Health of the School Child	3
HE 3330	Methods in Teaching Health	3
HE 3440	Nutrition and Health Education	3
or KHS 6540	Workshop in Kinesiology, Health and Sport Studies	
HE 4340	Family and Reproductive Health	3
HE 5440	Mental Health and Substance Abuse	3
HE 5620	Performance Based Assessment in Health Education	3
HE 6430	School Health Curriculum	3
Total Credits		21

History: Teaching Minor

(Minimum 27 credit hours)

Code	Title	Credits
Content Area Requirements		
HIS 1000	World Civilization to 1500	3-4
HIS 1300	Europe and the World: 1500-1945	3-4
HIS 1400	The World Since 1945	3-4
HIS 2040	American Foundations to 1877	3-4
HIS 2050	Modern America: Since 1877	3-4
HIS 2240	History of Michigan	3-4
HIS 3140	African American History I: 1400-1865	3-4
or HIS 3150	African American History II: 1865-1968	
Methodology Requirements		

SSE 6710	Methods and Materials of Instruction in Secondary Social Studies	3
SSE 6730	New Perspectives in Social Studies Education	3
Total Credits		27-34

Mathematics: Teaching Minor

(Minimum 34 credit hours)

Code	Title	Credits
Content Area Requirements		
MAT 2010	Calculus I	4
MAT 2020	Calculus II	4
MAT 2250	Elementary Linear Algebra	3
MAT 2860	Discrete Mathematics	3
MAT 5000	Fundamental Concepts of Mathematics and Proof Writing	3
MAT 5420	Algebra I	4
or MAT 6170	Algebra: Ring Theory Through Exploration, Conjecture, and Proof	
MAT 6140	Geometry: An Axiomatic Approach	3
MAE/MAT 6210	Teaching Geometry, Probability and Statistics, and Discrete Mathematics from an Advanced Perspective	3
MAE 5150	Methods and Materials of Instruction: Secondary School Mathematics	3
STA 2210	Probability and Statistics	4
Total Credits		34

Physical Education: Teaching Minor

(Minimum 27 credit hours)

Code	Title	Credits
Requirements		
KIN 5100	Anatomical and Physiological Bases of Physical Activity	3
KIN 5110	Motor Learning and Development	3
KIN 5200	Effective Teaching and Instructional Practices	3
KIN 5220	Sports I	3
Select two of the following:		6
KIN 5230	Sports II	
KIN 5250	Adventure and Outdoor Pursuits	
KIN 5260	Aquatic Leadership	
KIN 5240	Fitness Instruction	3
KIN 5400	Adapted Physical Activity	3
KIN 5600	Socio-cultural Issues in Physical Activity	3
Total Credits		27

Physics: Teaching Minor

Code	Title	Credits
Content Area Requirements		
PHY 2130	Physics for the Life Sciences I	4
PHY 2131	Physics for the Life Sciences Laboratory	1
PHY 2140	Physics for the Life Sciences II	4
PHY 2141	Physics for the Life Sciences Laboratory	1
PHY 5015	Non-classical Physics for Educators	3
PHY 3310	Introductory Modern Physics Laboratory	2
PHY 5620	Electronics and Electrical Measurements	3
Physics Elective at or above the 1000 level		3
Additional Science Requirements		
CHM 6740	Laboratory Safety	2
or SCE 6010	Safety in the Science Classroom	
Additional Mathematics Requirements		
MAT 1800	Elementary Functions	4
Methodology Requirements		
SCE 5060	Methods and Materials of Instruction in Secondary School Science I	3
Total Credits		30

Political Science: Teaching Minor

(Minimum 26 credit hours)

Code	Title	Credits
Content Area Requirements		
PS 1010	American Government	4
PS 2710	Introduction to Comparative Politics	4
PS 2810	World Politics	4
PS 3020	Political Parties and Elections	4
PS 3070	Michigan Politics	4
Methodology Requirements		
SSE 6710	Methods and Materials of Instruction in Secondary Social Studies	3
SSE 6730	New Perspectives in Social Studies Education	3
Total Credits		26

Spanish: Teaching Minor

(Minimum 24 credit hours)

Students must score at the Advanced Low Level in Spanish, as measured by the Oral Proficiency Interview (OPI) from the American Council on the Teaching of Foreign Languages (ACTFL)

Code	Title	Credits
Content Area Requirements		
SPA 3025	Cultural Connections, Grammar and Composition II	3
SPA 3200	Conversation	3
SPA 3300	Introduction to Cultural and Literary Analysis	3
SPA 4610	Introduction to Early Modern Spanish Literature	3
or SPA 4620	Introduction to Modern and Contemporary Spanish Literature	
SPA 4630	Introduction to Colonial Latin American Literature	3
or SPA 4640	Introduction to Modern and Contemporary Latin American Literature	
SPA 5100	Advanced Composition	3
SPA 5200	Spanish Phonetics	3
Methodology Requirements		
LED 6520	Teaching English as a Second Language/Foreign Language: Methods I	3
Total Credits		24

Speech: Teaching Minor

(Minimum 24 credit hours)

Code	Title	Credits
Content Area Requirements		
(COM 1010 is a prerequisite for this minor)		
COM 1500	Survey of Mass Communication	3
COM 2000	Introduction to Communication Studies	3
COM 2110	Argumentation and Debate	3
COM 2200	Interpersonal Communication	3
COM 4130	Communication Ethics	3
COM 6070	Directing Forensics	3
Additional Communication Course (see advisor)		3
Methodology Requirements		
COM 6060	Teaching Communication at the Secondary Level	3
Total Credits		24

Bachelor of Science in Education - Special Education

The special education curriculum leads to a bachelor's degree in education and certification in the area of cognitive impairment.

Admission: Level 1

Entry to the College of Education

All students intending to pursue a teaching curriculum who enter the University directly from high school, or transfer from other colleges are directly admitted by the University Admissions Office (p. 22) into the College of Education in Level 1 status.

Admission: Level 2

Entry to Professional Education Sequence

The standards listed below apply to those students entering the College of Education at Level 2: those working for a secondary or elementary school teaching certificate; those in a combined degree program; and those previously admitted at the freshman or sophomore level to the College of Education.

Eligibility for admission is based on the following criteria:

1. Satisfactory completion of fifty-three semester or eighty quarter credits of course work with an overall grade point average of 2.5 or above. In addition, the grade point average for any courses taken at Wayne State University must be 2.5 or above. This coursework should generally conform to the Level 1 courses prescribed by the College for students who expect to prepare for teaching. The quality of work, especially in the major area, must indicate a strong potential for success in a teacher-education program.
2. Intermediate Composition Competency Requirement: All Education students must satisfactorily complete the University intermediate composition competency (p. 35) requirement prior to admission.
3. Physical Health: Definite standards of health must be met by all students entering the College. All students are required to present a negative tuberculosis (T.B.) test prior to admission.
4. Group Work Experience: All students must have verifiable successful group work (forty hours) experience with children.
5. Criminal History Check: All students must submit a current (within the last six months) statewide criminal history check (http://coe.wayne.edu/pdfs/criminial_history_new.pdf).
6. Elementary Education: Students seeking admission to Elementary Education must complete MAT 1110 and MAT 1120 or have appropriate prerequisite math course in progress.
7. Special Education: Students seeking admission to Special Education must have completed the following courses:

Code	Title	Credits
MAT 1110	Mathematics for Elementary School Teachers I (or have appropriate prerequisite math course in progress)	3
PSY 1010	Introductory Psychology	4
PSY 2400	Developmental Psychology	4
Select one of the following:		3-4
BIO 1030	Biology Today	
BIO 1050	An Introduction to Life	
BIO 1500	Basic Life Diversity	
BIO 1510	Basic Life Mechanisms	
SCE 5010	Biological Sciences for Elementary and Middle School Teachers	

8. Secondary Education: Students seeking admission to Secondary Education must have twelve-semester credits completed in the major
9. Specific Prerequisites or other special requirements of the curriculum area for which the student is applying.

Application for Level 2 Standing

Upon completion of a minimum of fifty-three-semester credits of college coursework and all other Level 2 admission requirements, students should apply for College of Education Level 2 standing. Applicants who have completed college work in institutions other than Wayne State must first apply for admission through the University Office of Admissions (p. 22).

Students who intend to receive degrees from other colleges in the University AND a teaching certificate from the College of Education must apply to the Combined Program through Academic Services, 489 Education Building. All applicants to Level 2 must attend an orientation session.

All students must complete University General Education Requirements (p. 34), the Special Education Comprehensive Major (some of these courses may also satisfy the University General Education Requirements), Professional Education Requirements and the major area of study (Special Education Cognitive Impairment) as outlined below. The total number of credit hours for the degree varies from 141 to 144 depending on how General Education Requirements are met.

No grade below 'C' may be used to meet any requirement specific to the Comprehensive Major, Professional Education Sequence and the Special Education major.

General Education Requirements

Code	Title	Credits
Written Communication		
Basic Composition (BC)		
Intermediate Composition (ICN)		
Oral Communication (OC)		
Quantitative Experience (QE)		
MAT 1110	Mathematics for Elementary School Teachers I	
Natural Science Inquiry (NSI)		
Two courses required (select one from PSY and one from BIO). One course must include a lab.		
PSY 1010	Introductory Psychology	
or PSY 1020	Elements of Psychology	
BIO 1030	Biology Today	
or BIO 1050	An Introduction to Life	
or BIO 1500	Basic Life Diversity	

or BIO 1510	Basic Life Mechanisms
Civic Literacy Inquiry (CIV)	
PS 1010	American Government
or PS 1030	The American Governmental System
Social Inquiry (SI)	
GPH 1100	World Regional Patterns
Cultural Inquiry (CI)	
AED 5050	Integrating the Arts into the Elementary Classroom (Completed after admission to Level 2)
Diversity Equity and Inclusion Inquiry (DEI)	
Global Learning Inquiry (GLI)	
HIS 1000	World Civilization to 1500
or HIS 1400	The World Since 1945

Special Education Comprehensive Major

Code	Title	Credits
ELE 6200	Children's Literature for Teachers	3
GPH 1100	World Regional Patterns	4
HIS 2040	American Foundations to 1877	3-4
HIS 2050	Modern America: Since 1877	3-4
HIS 2240	History of Michigan	3-4
MAT 1110	Mathematics for Elementary School Teachers I	3
MAT 1120	Mathematics for Elementary School Teachers II	3
PSY 1010	Introductory Psychology	4
or PSY 1020	Elements of Psychology	
PSY 2400	Developmental Psychology	4
ECO 1000	Survey of Economics	4
or ECO 2010	Principles of Microeconomics	
or ECO 2020	Principles of Macroeconomics	
HIS 1000	World Civilization to 1500	4
or HIS 1300	Europe and the World: 1500-1945	
or HIS 1400	The World Since 1945	
PS 1010	American Government	4
or PS 1030	The American Governmental System	
BIO 1030	Biology Today	3
or BIO 1050	An Introduction to Life	
or BIO 1500	Basic Life Diversity	
or BIO 1510	Basic Life Mechanisms	
or SCE 5010	Biological Sciences for Elementary and Middle School Teachers	
SCE 5020	Physical Sciences for Elementary and Middle School Teachers	3
SCE 5030	Earth/Space Science for Elementary and Middle School Teachers	3
KIN 5550	Health and Physical Education for the Elementary School Teacher	3
Total Credits		54-57

Professional Education Sequence

Code	Title	Credits
The following course must be completed in Level 1:		
TED 2250	Becoming an Urban Educator	3
The following courses may be completed in Level 1 or 2:		
BBE 5000	Multicultural Education in Urban America	2
EDP 3310	Educational Psychology	3
ELE 6070	Family, Community and School Partnerships: Supporting Children's Learning	3
TED 6020	Computer Applications in Teaching I	3
The following courses must be taken prior to TED 5150 Pre-Student Teaching:		
ELE 6220	Literacy I	3
One additional method course (see Advisor)		
Pre-Student Teaching Experience		
TED 5150	Analysis of Elementary Teaching	5
The following courses may be elected at any time after admission to the College of Education Level 2 and must be completed prior to taking TED 5790		
ELE 6240	Literacy II	3
ELE 6260	Literacy III	3
ELE 6390	Mathematics Instruction: P-8	3
ELE 6500	Science Curriculum: P-8	3
ELE 6600	Social Studies Curriculum: P-8	3
AED 5050	Integrating the Arts into the Elementary Classroom [1]	3
Elementary Field Experience		
TED 5780	Directed Teaching and Conference	5
Special Education Field Experience		
TED 5790	Directed Teaching and Conference for Special Groups	
Total Credits		45

[1] Prereq: ELE 6220 and two additional Elementary Methods courses

Major Areas of Study (Special Education)

Students pursuing a bachelor's degree in education leading to an endorsement in Cognitive Impairment must complete the following major requirements. The courses cited in the major, with the exception of SED 5000 and SED 5010, may be completed only after admission to the Special Education Level 2 Program.

Cognitive Impairment (a minimum of thirty credit hours)

Code	Title	Credits
SED 5000	History, Philosophy, and Ethics of Teaching Students with Disabilities	2
SED 5010	Inclusive Teaching	2
SED 5075	Consultation and Collaboration for Inclusive Teaching	2
SED 5080	Supportive Environments, Engaged Learning	2
SED 5090	Transitions for Students with Disabilities	2
SED 5110	Introduction to Teaching Students with Moderate/ Significant Support Needs	3
SED 5115	Observation and Assessment of Students with Moderate/Significant Support Needs	3
SED 5121	Language Development and Instruction for Students with Moderate/Significant Support Needs	2
SED 5125	Teaching Students with Significant/Multiple Support Needs	3
SED 5130	Teaching Students with Moderate Support Needs	3
TED 5790	Directed Teaching and Conference for Special Groups	6
Total Credits		30

Theoretical and Behavioral Foundations

Assistant Dean: Cheryl Somers
Office: 341 Education Building; (313) 577-1670
http://coe.wayne.edu/tbf/

The Division of Theoretical and Behavioral Foundations includes degree programs in educational evaluation and research, counseling, educational psychology, school and community psychology, counseling psychology, and rehabilitation counseling and community inclusion. There are also certificate programs in applied behavior analysis. The Division is designed to facilitate a realization of the following aims:

1. to integrate the educational experiences and course offerings;
2. to perform a service function in meeting the needs of those enrolled in other divisions within the College;
3. to provide degree and specialist programs for those who are majoring in a particular field of the division;
4. to provide students with an opportunity to study those aspects of educational thought and practice that are interdisciplinary as well as foundational;
5. to formulate programs looking toward the development of new combinations of specialties, as in
   a. counseling-psychology,
   b. pupil personnel managers in school systems,
   c. utilization of theoretical and behavioral foundations in teacher education,
   d. underlying philosophical premises of educational programs and practices;
6. to design interdisciplinary, cross disciplinary, and multidisciplinary experiences for and with students.

- Applied Behavior Analysis (Undergraduate Certificate) (p. 134)

Applied Behavior Analysis (Undergraduate Certificate)

The undergraduate option in Educational Psychology is an Undergraduate Certificate in Applied Behavior Analysis (ABA). The training emphasizes working in clinical settings with people with Autism. This is a three course and three practicum sequence that is completed in addition to an existing major. It can be done simultaneous with or after completion of the bachelor's degree. This training provides students with the eligibility to sit for the Board Certified assistant Behavior Analyst (BCaBA) exam, which is part of earning the BCaBA credential. The successful demonstration of both academic and clinical skills will be achieved through coursework and intensive field experience working with children.

Admission Requirements

Admission to this program is determined by the program review committee. Requirements include: a minimum grade point average of 2.75, a program area application, any applicable university-level application, and an interview with program faculty. The following must be mailed to the program: program area application, transcripts, and three letters of recommendation. Post-bachelor's students apply directly to Wayne State University. Existing students may add Applied Behavior Analysis as a second program to an existing major. Contact the program secretary to obtain the current application and program information.

This course sequence is calendar controlled in that all students begin and end together, taking the same courses as a cohort. Required courses are:

Code	Title	Credits
EDP 3101	Introduction to Applied Behavior Analysis	4
EDP 3102	Techniques of Applied Behavior Analysis	4
EDP 3103	Applied Behavior Analysis Assessment and Treatment Planning	4
EDP 3104	Field Experience in Applied Behavior Analysis I	2
EDP 3105	Field Experience in Applied Behavior Analysis II	2
EDP 3106	Field Experience in Applied Behavior Analysis III	2
Total Credits		18

In each of three semesters students take one course and one practicum, which involves 20 hours/week in a clinical setting with children with Autism. Students must not receive grades lower than a C in these courses in order to successfully complete the program. All course work and practica must be completed in accordance with the academic procedures of the College of Education and the University.

The Applied Behavioral Analysis Undergraduate Certificate is designed to be completed in 2 years.

This program will cost $11,430.75 for in-state tuition and fees and $22,110.87 for out-of-state tuition and fees if completed within normal time. There may be additional costs for living expenses. These costs were accurate at the time of posting, but may have changed.

Fewer than 10 students completed this program within normal time. Typical student debt has been withheld to preserve the confidentiality of the students.

Program meets licensure requirements in the following States: Michigan

For more information about graduation rates, loan repayment rates, and post-enrollment earnings about this institution and other postsecondary institutions please click here: **https://collegescorecard.ed.gov/**.

COLLEGE OF ENGINEERING

Dean: Farshad Fotouhi

College Mission Statement

The College of Engineering has three important missions: teaching, research, and outreach — serving the region, State and nation as part of an urban comprehensive research university. Students are prepared for professional practice, graduate study, lifelong learning, and for leadership roles in society. Faculty members develop the scientific and technological base for the engineering profession, and disseminate advanced technical knowledge to engineers, other professionals, and the public. A balance among the three missions is sought through a partnership built among students, faculty, staff, alumni, government, and private industry. This is achieved by maintaining an academic environment that is both intellectually stimulating and supportive of all of its constituents, regardless of race, gender, or ethnic background.

College Organization

The academic programs of the College of Engineering are organized into two Divisions: Engineering and Engineering Technology.

The Division of Engineering includes seven academic departments:

- Biomedical Engineering
- Chemical Engineering and Materials Science
- Computer Science
- Civil and Environmental Engineering
- Electrical and Computer Engineering
- Industrial and Manufacturing Engineering
- Mechanical Engineering

Programs leading to the Bachelor of Science, Master of Science, and Doctor of Philosophy degrees in engineering are offered by these departments. Five programs leading to a Bachelor of Science in Engineering Technology and a Master of Science in Engineering Technology are offered in the Division of Engineering Technology.

Profession of Engineering

Engineering requires people of imagination who can plan and create. Engineers design, simplify, refine and economize. They are pragmatists serving the needs of society through the development and improvement of technology. The engineer's resources include an intimate knowledge of scientific laws and their applications to engineering problems as well as ability to use mathematics and computers and, above all, an imaginative and an inquiring mind.

Engineers can start their careers in many functional roles — designer, test engineer, manufacturing engineer, sales engineer, researcher, or a combination of these and other roles. Engineering has become a profession that often leads to executive management positions. As more and more of the decisions of management in government and business are based on technical considerations, engineers with the necessary background are called upon to make these choices. Engineers do not devote their attention solely to innovations in technology. In all of these roles they look beyond their inventions and conceptions to consider the societal effect of their work, including its economic, aesthetic, safety, and environmental aspects.

At present, the minimum education required for general competence in the practice of engineering is a bachelor's degree in one of the fields of engineering. However, many engineering positions require an additional year or two of education at the graduate level leading to the master's degree. Whenever possible, students are urged to continue their education to this point. For engineering research or teaching, and in some areas of practice, the doctoral degree is recommended. For further information about graduate programs in engineering, consult the Wayne State University Graduate Bulletin.

For all engineers, continuing professional competence in the midst of our constantly changing technology requires educational renewal and a life-long dedication to continuing education. The College offers seminars, institutes and off-campus programs to meet this need. In addition, regular College courses are available on an elective, post-degree basis.

Engineering Technologist

The evolution of our civilization has always been closely associated with technology and science. Now, and in the future, this association will become even more important. New knowledge has inspired advances in technology, resulting in new career opportunities. Far-reaching developments in communications and instrumentation technology, highly sophisticated machine tools and manufacturing processes, new energy sources and new man-made materials, and computer applications have all revolutionized the techniques of industrial manufacturing and management.

This on-going expansion of scientific and engineering knowledge has changed the make-up of the engineering team through the inclusion of the engineering technologist. The engineering technologist, in cooperation with the engineer, organizes people, materials and equipment to design, construct, operate, maintain and manage technical engineering projects. He or she should have a commitment to that technological progress which will create a better life for everyone. Because of the increasing challenges in this information age, it is no longer possible for one person to master all of the knowledge and skills necessary to execute technical projects. Quite often, a team effort is required -- with each member of the team highly trained in a specific area. Today's engineering teams involve engineers and engineering technologists and may also include technicians, scientists, physicians, craftsmen, and other specialists.

Engineering technology supports engineering activities through a combination of scientific and professional knowledge with technological skills and concentrates on the industrial applications of engineering. Because of the extensive variety of functional opportunities, and the wide variety of industrial enterprises available to the engineering technologist, there has been a great deal of specialization. An engineering technologist can specialize in three related ways: discipline, function and industry.

For example, the discipline could be mechanical, the function could be design, and the industry could be automotive; or the discipline could be electrical, the function field installation, and the industry electric power generation. Through its undergraduate and graduate programs, the Division of Engineering Technology allows students to gain the specialization that they desire to contribute to interdisciplinary teams as engineering technologists.

College Facilities

The College of Engineering's facilities include five separate buildings with almost 300,000 square feet of classroom, office, and laboratory space. The newest of these is the Marvin I. Danto Engineering Development Center, featuring research and educational space that is dedicated to interdisciplinary work in areas of nanotechnology, automotive engineering, urban infrastructure, and alternative energies. Among the lege's facilities are multimedia classrooms, a comprehensive computer center, electronics and machine shops, student project space, dedicated teaching laboratories, and sophisticated research laboratories. The four multimedia classrooms support innovative course delivery techniques, including interactive distance learning with classrooms at a variety of sites within Wayne State, at other colleges and universities, and

at industrial sites. The PACE Teaming Center is designed to promote interdisciplinary project work with links to real-world engineering problems. The computer facilities include dedicated computer graphics, design, and personal computing hardware and software.

The Division of Engineering Technology is housed in a dedicated building of approximately 24,000 square feet, located at 4855 Fourth Street.

The undergraduate laboratories provide facilities in such areas as computer graphics, fluid mechanics, thermal sciences, system dynamics, statistical computation, materials science, and rapid prototyping. Some specific laboratories associated with departmental engineering specializations include: chemical measurements; chemical unit operations; materials testing and processing; nanomaterials synthesis, characterization, and device manufacturing; electron microscopy; optical metallography; soil mechanics; environmental and hydraulic engineering; roadway and building materials; structural modeling; analog and digital communications systems; computer systems; control systems; analog circuits; digital systems; microcomputers and microprocessor applications; power systems; electronics; optics; computer vision; artificial neural networks; integrated circuits fabrication; automotive engineering; human factors engineering; computer aided manufacturing; 3D printing, 3D CNC; robotics; sand casting and testing; and stress analysis.

These laboratories are used for instructional and research purposes along with such research facilities as a molecular beam laboratory; a clean room facility for device materials research; a biomechanics accelerator and impact laboratory; an acoustics and noise control laboratory; and a structural behavior laboratory. All of these are available for experimentation and research in connection with the undergraduate curricula on a college-wide basis.

The College provides support for the various instructional and research laboratories in the construction, modification, repair, calibration and installation of experimental equipment. In addition, the College offers sophisticated assistance in the design of electronic and instrumentation equipment and devices. Qualified students are encouraged to use these facilities under the supervision of trained professionals.

Many undergraduate and graduate students pursue their studies in the College while working in local industry, either full-time or part-time, where unique research facilities unavailable on campus may be found. In such situations, students are encouraged to pursue their college-credit research at the employment site, where they work under the joint supervision of their faculty advisor and a company representative. Such research can take the form of undergraduate directed study courses, Master of Science theses, or Ph.D. dissertations.

Accreditation

In addition to the accreditation of Wayne State University by the Higher Learning Commission of the North Central Association of Colleges and Secondary Schools, the undergraduate programs listed below are accredited by ABET Inc. In the Division of Engineering, the programs below that lead to a Bachelor of Science degree are accredited by the Engineering Accreditation Commission (EAC) of ABET Inc. The Electrical/Electronic Engineering Technology program and the Mechanical Engineering Technology program, offered by the Division of Engineering Technology, are accredited by the Technology Accreditation Commission (TAC) of ABET. Program accreditation is based upon careful, periodic appraisal of the faculty, curriculum, and facilities of the College. This approval provides assurance of an up-to-date, high quality education pertinent to the engineering profession. Such accreditation is recognized by other universities, prospective employers, and state professional licensing agencies.

DIVISION OF ENGINEERING (undergraduate)

Bachelor of Science Programs in:

Biomedical Engineering
Chemical Engineering
Civil Engineering
Electrical Engineering
Industrial Engineering
Mechanical Engineering

are accredited by the:

Engineering Accreditation Commission of ABET
111 Market Place, Suite 1150
Baltimore MD 21202-4012
(Telephone 410-347-7700).

DIVISION OF ENGINEERING TECHNOLOGY (undergraduate)

Bachelor of Science Programs in:

Electrical/Electronic Engineering Technology
Mechanical Engineering Technology

are accredited by the:

Technology Accreditation Commission of ABET
111 Market Place, Suite 1150
Baltimore MD 21202-4012
(Telephone 410-347-7700)

Location of the College

The College is located in the heart of Detroit, Michigan, renowned as a center of automotive engineering and production. The Michigan economy is in transition, with new focus on the emerging fields of biomedical and alternative energy technologies. This industrial center provides a wealth of examples of modern engineering practice and opportunities to explore the latest in vehicle design and production, automation design, transportation planning, telemetry, hydraulic and pneumatic controls, electric power generation, and computer design and production. The research and educational strengths of Wayne State's College of Engineering mesh well with the traditional and new engineering industries within Michigan, preparing students for those fields. The many industries of southeastern Michigan provide engineering students with rich and varied work experiences through full or part-time employment or through the Cooperative Education Program (p. 139).

The College is affiliated with the eleven other schools and colleges of the University which, with its 29,000 students, provides a broad selection of educational opportunities on an interdisciplinary basis.

Academic Regulations: Engineering Division

Undergraduate Registration

All Division of Engineering undergraduate students are required to meet with their Engineering advisor a minimum of once per academic year in order to discuss their academic progress and curriculum. It is strongly recommended that these meetings take place before each semester's registration. Special attention should be paid to course pre- and corequisites as well as College grade requirements in prerequisites. It is the student's responsibility to ensure that all pre- requisite and corequisite requirements are satisfied. Students will be removed from courses entered without satisfying these requirements. Students may also be required to repeat courses for which they have not completed the

necessary prerequisites, following fulfillment of those prerequisites (even though a grade of 'C' or above has been earned in the course). Students wishing to receive a waiver of pre- or corequisite requirements must submit an Academic Petition *prior* to registering for the affected course.

Some courses may be offered only once a year; others may have multiple sections running every semester. The University Schedule of Classes (http://www.classschedule.wayne.edu), published prior to each semester, shows when and where the classes will meet and outlines registration procedures and times.

Attendance Policy

Regular attendance in classes is necessary for success in college work. Excessive unexcused absences may result in a student failing a course. The student should arrange with the course instructor in advance for all predictable absences. Absences due to illness or conditions beyond the student's control should be reported as soon as possible via phone or e-mail to the instructor, and substantiating documentation provided upon the student's return to class.

Dean's List of Honor Students

A student who achieves a term grade point average of 3.5 or more, based on a program of twelve credits or more, is cited by the Dean for distinguished scholarship and is included on the Dean's List of Honor Students.

'AGRADE' Program (Accelerated Graduate Enrollment)

Accelerated Graduate Enrollment: The College of Engineering enables academically superior undergraduate seniors to enroll simultaneously in undergraduate and graduate programs and apply a maximum of sixteen credits toward both an undergraduate and graduate degree in the student's major field. Students who elect the 'AGRADE' Program may expect to complete the bachelor's and master's degrees in one additional year of full-time study.

To be eligible, applicants must have completed a minimum of ninety credits of course work applied towards the engineering degree and be accepted in the professional program of their major. The minimum grade point averages for acceptance into the program are a 3.4 g.p.a. overall and a 3.6 g.p.a. for courses in their department of specialization, as computed by the rules of the Division of Engineering. See the departmental advisor for further details.

Student Conduct

Each student is subject to official regulations governing student activities and student behavior. Furthermore, it is the responsibility of each student to adhere to the principles of academic integrity. Thus, a student should not falsely claim the work of another as his/her own, or misrepresent him/herself so that the measures of his/her academic performance do not reflect his/her own work or personal knowledge.

If there are reasonable grounds to believe that a student has violated the regulations or student responsibilities, he or she may be disciplined. Such discipline may include failure in the course, suspension or dismissal from the program. A description of the University's Student Due Process Policy and a discussion of academic integrity can be found at the Dean of Students Office (http://www.doso.wayne.edu/assets/codeofconduct.pdf).

Engineering Division Rules for Calculating Grade Point Average

The Division of Engineering computes Departmental and College grade point averages using rules that differ from those used to compute the cumulative grade point average on the official University transcript: the College g.p.a. is calculated based on all engineering and technical courses, as well as required English courses (Students should consult their academic advisors for details). The Departmental g.p.a. includes all courses taken within the major department. The College g.p.a. includes all engineering courses and those courses that are prerequisite to an engineering course. The preprofessional g.p.a. is calculated to determine eligibility for admission to the professional program. Preprofessional requirements that have been satisfied through transfer credit will be included in the assessment of the pre-professional g.p.a.; however, they will not be included in the official University g.p.a. or final calculation of the College or Department g.p.a.

Substandard Academic Performance

If a grade below 'C-minus' is received in any course to be applied towards the degree, the student will be required to repeat that course in the next semester in which it is available. The course must be repeated and a satisfactory grade earned before the next course in the sequence is taken. Students will be administratively withdrawn from courses for which they have not satisfied course prerequisites. General education and technical elective courses, which are not specifically required for the degree, may be repeated or a different course may be chosen to satisfy that requirement. If a different course is selected, the first grade will not be replaced in the calculation of the g.p.a.

A course in which a grade below 'C-minus' has been earned may not be subsequently passed by special examination.

Auditing Courses: Undergraduate students may elect to formally audit a course that interests them. In order to audit a course, a student must register for the class and pay the appropriate tuition. However, this course will not apply towards any degree requirements. Any course that has been completed for audit may not be subsequently enrolled in for credit, nor may credit be obtained by special examination.

No course taken to satisfy an engineering program requirement may be elected on a Pass-Fail ('P'-'NP') basis.

Repeating Courses

Courses in which a grade lower than a 'C-minus' is earned must be repeated in the next regular (i.e., fall or winter) semester in which the course is offered. Exceptions to this rule must be approved by the Undergraduate Program Director, Department Chair, or the Associate Dean for Academic Affairs.

Students will be allowed one repeated course for a substandard grade for every twenty-four credits earned at Wayne State University, up to a maximum of five repeated courses. If a student must repeat a sixth course in order to complete their degree, he or she will be excluded from the College of Engineering. Prerequisite math and science courses that do not count for degree credit, but are required if students did not place into MAT 2010 and CHM 1225, are also counted towards exclusion from the College. Students who elect to repeat a course to improve their understanding of the material even though a satisfactory ('C-minus' or higher) grade was received will not have this counted towards the number of allowed repeats.

Failure to pass a course with at least a 'C-minus' grade after three attempts constitutes grounds for exclusion from the College of Engineering.

If a student receives a substandard grade in a course at Wayne State University, they will be required to repeat that course at Wayne State University. Exceptions to this policy require prior written approval from the Associate Dean for Academic Affairs in order to take the course at another designated institution.

Students are directed to Repeating Courses — The mark of R (p. 48) for University policies related to repeating courses and credit by special examination. See also 'Division of Engineering Rules for Calculating Grade Point Average', above.

Academic Probation

A student is considered to be on academic probation from the University whenever his or her cumulative grade point average falls below 2.0. However, a student will be placed on probation from the College of Engineering whenever his or her whenever his or her cumulative grade point average falls below 2.5, or his or her academic performance is deemed unsatisfactory. For a first occurrence of academic probation, a student will be required to meet with his or her academic advisor to discuss what steps should be taken to remedy the academic deficiencies. In the case of any subsequent occurrence of probation, either in consecutive or non-consecutive semesters, the student is required to meet with the Associate Dean for Academic Affairs before the academic hold will be released. While on probation, a student may not represent the College of Engineering in student activities.

A student on probation is expected to remove the grade point deficiency promptly. If, at the end of the first semester on probation, the student's cumulative grade point average has not increased to at least 2.5, he or she will be excluded from the College of Engineering. For part-time students, a semester will be considered to consist of twelve consecutive credits. If the student's cumulative g.p.a. reaches at least 2.5 by the end of the first semester after being placed on probation, he or she will be returned to regular status. Multiple occurrences of probation in non-consecutive semesters will also result in the student's exclusion from the College. A student may also be refused the privilege of registering in the College of Engineering for irresponsible attendance and performance in class, regardless of any probationary status.

Following exclusion from the College of Engineering, the privilege of registering in the College will be withheld for at least one calendar year.

A student who has been refused the privilege of registering in the College of Engineering may request a re-consideration of his or her status by the Academic Standards Committee (ASC) after the one-year exclusionary period. He or she should not make the request, however, unless evidence can be provided of changes in academic preparation or circumstances that will substantially increase the likelihood of academic success. A formal written request for reconsideration must be presented to the Associate Dean for Academic Affairs. Students who plan to petition for readmission are encouraged to meet with their academic advisor as early as possible during the exclusion period to discuss what changes may provide an opportunity for readmission. In no case is readmission to the College of Engineering guaranteed.

For complete information regarding academic rules and regulations of the University, students should see the Academic Regulations (p. 11) section of this bulletin. The following additions and amendments pertain to the College of Engineering.

Withdrawal From Courses

General rules governing withdrawal from courses and changes of program can be found on Drop/Add — Adjusting Your Schedule. (p. 48) Courses from which a student withdraws, such that a mark of WP, WF, or WN appears on the transcript, are counted as an attempt at the course and are taken into account when assessing the allowed number of repeats. If a student feels that circumstances beyond their control (e.g. family emergency, change of work schedule) justify the withdrawal, a written petition may be submitted to the Associate Dean for Academic Affairs before the end of the semester in which the course was taken. If the petition is approved, it will be noted in the student's advising record that the course will not be counted towards Engineering repeat allowances.

Graduation

Students must apply for graduation at the beginning of the semester in which they plan on completing their degree requirements. At graduation, the University requires a minimum 2.0 grade point average in the total residence credit.

Graduates with a minimum of sixty credits in residence at Wayne State University and a grade point average of at least 3.0 may qualify for a special diploma under the following conditions:

Summa Cum Laude: Student must have a grade point average in the 95th percentile of the College of Engineering graduating class.

Magna Cum Laude: Student must have a grade point average in the 90th percentile of the graduating class.

Cum Laude: Student must have a grade point average in the 80th percentile of the graduating class.

Commencement: Each year, commencement exercises are held May and December. College *Order of the Engineer* and *Professional Order of Engineering Technology* ceremonies will be held in May to induct graduates into these organizations.

Guest Students

A student attending another engineering college who wishes to take course work at Wayne State for the purpose of credit transfer to the home institution may be admitted as a guest student for one term. This is done by applying through the University Office of Admissions using either the Application for Undergraduate Admission or the Graduate Guest Application. These applications require certification by an official of the home institution. For information on graduate guest admission and visiting doctoral guests, see the Wayne State University Graduate Bulletin. Guest students are expected to have met the listed prerequisite requirements for courses in which they wish to enroll. Students wishing to register for 3000- or 4000-level engineering classes must first receive permission from the department that teaches the course.

Second and Concurrent Degree

In accordance with the University requirements, students may earn a Bachelor of Science in engineering concurrently with or subsequent to another bachelor's degree at Wayne State University. Such students must complete at least thirty credits beyond those applied toward the first degree and must also satisfy applicable departmental and College requirements; consult an Engineering academic advisor to review these requirements.

Engineering: Minor Options

A number of undergraduate programs within the University allow students to pursue a minor in the field. Engineering students may elect to complete a minor through another school or college in conjunction with their Bachelor of Science in Engineering. This minor will generally require course credit in addition to that required for the engineering degree.

Bachelor of Science: Engineering Division

Undergraduate Program Goals

The overall goal of the undergraduate engineering degree programs at Wayne State University is to prepare students for success in their immediate and long-term professional careers as engineering practitioners as well as for pursuing graduate and professional studies and lifelong learning.

Undergraduate programs in the College of Engineering are divided into three phases. All students must complete the professional program in order to earn their Bachelor of Science degree. The majority of students begin their engineering curriculum through the pre-professional program, which allows them to complete a limited number of courses while demonstrating their academic preparedness for the professional program. Students who require additional background in math and science before entering the pre-professional program enter the College through the Eos Program and progress to the pre-professional program upon successful completion of a defined set of foundational courses.

Recommended High School Preparation

In order to place sufficient emphasis on the English, mathematics, physics, and chemistry required for normal progress in engineering, the recommended high school preparation for admission to the College of Engineering is:

Algebra	2 units
Chemistry	1 unit
English	4 units
Physics	1 unit
Plane and Solid Geometry	1.5 units
Social Science or Foreign Language	2 units
Trigonometry	0.5 unit
Electives	3 units

An incoming freshman with this background enters the pre-professional program if he or she earns satisfactory scores on the placement examinations in mathematics, chemistry and English (see below).

Students who are interested in pursuing a degree in engineering but who may not have the requisite background in science and mathematics, as demonstrated by their high school record, ACT or SAT scores, or placement exam results, will be admitted to the Eos Program (p. 142). This program is designed to provide students with the necessary background to proceed into and succeed in the pre-professional and professional programs in the engineering major of their choice.

Admission

Admission to the undergraduate programs in the College of Engineering is dependent upon high school grade point average (g.p.a.) and ACT or SAT scores for those students entering directly from high school, and upon grade point average and level of curriculum completion for transfer students from community colleges or other universities. The following admissions criteria cite minimum values used to place students in the professional, pre-professional, and Eos programs. Admission to all of these programs is contingent upon satisfaction of the general undergraduate admission requirements (p. 22) of the University. (p. 22)

Admission: Professional Engineering Program

Freshmen with a 3.5 or above high school g.p.a., both cumulative and in math and science, along with a Math ACT score of at least 26 or a Math SAT score of at least 620, are eligible for admission to the professional engineering program of their choice. The final requirement for direct admission to the professional program is placement into at least MAT 2010, CHM 1225, and ENG 1020 on the required placement examinations.

Students who have completed at least the equivalent of the following set of courses may apply to transfer into the professional program of their choice:

Code	Title	Credits
BE 1200	Basic Engineering I: Design in Engineering	3
BE 1300	Basic Engineering II: Materials Science for Engineering Applications	3
BE 1310	Materials Science for Engineering: Laboratory	1
MAT 2010	Calculus I	4
MAT 2020	Calculus II	4
MAT 2030	Calculus III	4
CHM 1225/1230	General Chemistry I for Engineers	3
PHY 2175	University Physics for Engineers I	4
PHY 2185	University Physics for Engineers II	4
ENG 1020	Introductory College Writing	3

For direct admission to the professional program as a transfer student, a minimum 3.0 grade point average in college-level courses (overall as well as in math and science) is required, and the listed courses must each have been completed with grades no lower than a 'C.'

Students who do not meet the minimum requirements for admission to the professional program may be admitted to the pre-professional program as follows.

Admission: Pre-professional Engineering Program

Students entering the College directly from high school will be admitted to the pre-professional program if they have earned at least a 3.0 overall g.p.a. and a minimum score of 21 on the Math ACT or 530 on the Math SAT. In addition, placement into the pre-professional program requires placement into at least MAT 1800, CHM 1225, and ENG 1020 on the required placement exams (see below).

Students who have completed at least twelve credits of college-level coursework may be admitted to the pre-professional program if they have a minimum of a 3.0 overall g.p.a.. Students must also have placed into, or transferred the equivalent of, MAT 1800, CHM 1225, and ENG 1020 (see below for descriptions of placement exam requirements). If fewer than twelve credits of college-level work have been completed, students must also submit their high school transcripts and ACT or SAT results.

Matriculation

Entering Freshmen: Students should plan on attending an Engineering Orientation session, scheduled in concordance with University Orientation, as early as possible to allow maximum flexibility in course scheduling. Students must take their placement exams and receive their results before attending an orientation session - allow at least seven days for the test results to post following the exam.

Transfer Students: For the student who has attended another institution and been admitted to the College of Engineering, the amount of advanced standing will be determined by the College and will depend upon the quantity and quality of the degree work completed prior to enrollment in this institution. Whether all, or only in part, such transferred credit may be applied toward a degree at Wayne State depending on the requirements of the curriculum chosen. No grade below a 'C' may be transferred into the College to satisfy a degree requirement. The student should consult

the department academic advisor if he or she has any questions on their transfer status.

Course equivalency tables (http://www.transfercredit.wayne.edu) are designed to provide initial guidance. The decision of the Department and the College regarding the acceptance of transfer credit to be applied to the undergraduate degree in engineering is final and supersedes the published transfer tables. Any request for reconsideration of the evaluation of transfer credits accepted by the College of Engineering should be made in writing within one year of the date of the student's first enrollment in the College of Engineering, or within one year of the date of the evaluation if the latter is made subsequent to the student's enrollment in the College of Engineering.

Pre-professional Engineering Programs

Students in the pre-professional programs complete thirty-five to forty-five credits of their engineering curriculum, depending on their intended major. This program consists of the following courses that are required of all Division of Engineering students:

Code	Title	Credits
BE 1200	Basic Engineering I: Design in Engineering	3
BE 1300	Basic Engineering II: Materials Science for Engineering Applications	3
BE 1310	Materials Science for Engineering: Laboratory	1
CHM 1225	General Chemistry I for Engineers	3
CHM 1230	General Chemistry I Laboratory	1
ENG 1020	Introductory College Writing	3
MAT 2010	Calculus I	4
MAT 2020	Calculus II	4
MAT 2030	Calculus III	4
Select one of the following: [1]		5-8
PHY 2175 & PHY 2185	University Physics for Engineers I and University Physics for Engineers II	
PHY 2170 & PHY 2171	University Physics for Scientists I and University Physics Laboratory	
Total Credits		31-34

[1] PHY 2170 & PHY 2171 for ECE majors

Most departments also require that students complete one or more 2000-level courses within their department (contact the academic advisor for more information).

In order to be admitted to the professional program of their choice, a student must complete the pre-professional courses with no grade lower than a 'C-minus' and a College grade point average for these courses of at least 2.5. Calculation of this pre-professional g.p.a. will include the grades earned in all courses listed above in addition to departmental pre-professional requirements. The required courses may have been completed at Wayne State or transferred from another institution. If a course was completed at Wayne State, the highest WSU grade will be included in this g.p.a. calculation. For courses taken only outside of WSU, the highest grade earned at another institution will be factored into the College's calculation of the pre-professional g.p.a. (transfer grades are not included in the calculation of the official University g.p.a.). Students in the pre-professional program may opt to complete MAT 2150 and BE 2100, or defer them until after acceptance into the professional program; however, they will not be included in the calculation of the pre-professional grade point average.

Students who do not satisfy these pre-professional requirements will become ineligible to enter the professional program and are prohibited from enrolling in professional level (3000- and 4000-level) engineering courses. Students enrolled in the pre-professional program who fail to meet the 2.5 g.p.a. requirement after completion of the pre-professional courses will be subject to exclusion from the College of Engineering.

Professional Engineering Programs

Students must qualify for the professional program in order to complete their advanced engineering courses and apply for their bachelor's degrees. Only students in the professional program in Engineering may register for 3000- and 4000-level engineering courses and, as an undergraduate, 5000-level technical electives. Exceptional students may be granted direct admission to the professional program – the majority of students will progress through the pre-professional program first.

Honors Options

Students who qualify, either as incoming freshmen or continuing students, may opt to pursue Engineering Honors and/or University Honors as they complete their Bachelor of Science degree. Students interested in pursuing University Honors will be enrolled in both the College of Engineering (primary College) and the Irvin D. Reid Honors College (secondary College). Students should work closely with both their Engineering and Honors advisor to select courses. In order to graduate with University Honors, students must maintain a cumulative g.p.a. of 3.3 or higher and must complete at least twenty-eight credits of honors designated courses (please refer to the University Honors College (p. 212) requirements). To qualify for Engineering Honors in addition to University Honors, twenty-four credits of this coursework must include the following:

Code	Title	Credits
BE 2100	Basic Engineering III: Probability and Statistics in Engineering	3
BE 5998	Engineering Honors Thesis	4
HON 42XX	Honors Seminar that will satisfy General Education Requirements	3-4
Eight credits of honors designated courses within the major department. Students should consult their department advisor for more information.		8
Total Credits		18-19

The additional credits of honors courses can be taken in any department, either as honors designated or honors option sections. Students can obtain a list of courses that will also satisfy College requirements (such as MAT 2010 or ECO 2010) from their advisor. Students may elect to pursue only Engineering Honors through the listed twenty-four credits of requirements without completing the requirements for University Honors.

Cooperative Education Program

Students who wish to enrich their education with on-the-job engineering experience may enroll in the Cooperative Education Program. In this program, full-time study terms are alternated with full-time work assignments in cooperating industries. The program may be entered at the beginning of the junior year. Special cooperative programs are available on a limited basis and provide special arrangements in the definition of the work-study period. Most of the work assignments are in the Metropolitan Detroit area on a commuting basis; however, job opportunities are available in other cities and states. The Co-op program is available in all undergraduate engineering curricula.

Each Co-op student may enroll for one academic course while on work assignment. This must be done with the approval of the student's advisor and Co-op supervisor. Following each work assignment, the student may elect to enroll in BE 3510 or CHE 3510 for one credit. Election of

the course requires the completion of a report on the work experience to the department advisor and to the Co-op Coordinator. This credit for work will not be counted toward graduation unless permission is specifically recommended by the department chairperson. Students are automatically enrolled for a zero credit course (BE 3500) each term that they are on a Co-op assignment to insure that the experience appears on their transcript. A brief evaluation report covering each work assignment is to be submitted to the Co-op Coordinator, whether there has been enrollment in the above one credit courses or not. The student's performance on the job is rated by his/her industrial supervisor. Salaries and other benefits are paid for the time spent on each work assignment. For details and enrollment procedures, contact the Co-op Coordinator in the Career Planning and Placement Office.

Degree Requirements

The normal program of study for each of the degrees awarded in the College of Engineering requires from 120 to 136 credits. Of the total credits for the degree, at least thirty-four credits must be completed as resident credits in the degree program of the College. Departments may impose additional requirements.

Although the curriculum plans of the departmental sections which follow indicate a four-year program, many students will require additional time to complete all degree requirements. The national average time required for students to complete an engineering degree is approximately 4.5 years after beginning the calculus sequence (MAT 2010). Completion of the degree requirements in four years requires the election of an average of seventeen credits each term during the academic year. A student who participates in the Cooperative Education Program will require longer. Students may attend the University on either a full-time or part-time basis (twelve credits are considered by the University as a minimum full-time load).

Students who pursue degrees on a part-time basis may require much more than 4.5 years to complete all degree requirements. The actual amount of time required will depend upon the student's academic preparedness and the amount of time available for academic activities. The maximum load that a student carries should be consistent with the student's ability and available time. However, since a credit is defined as one class hour requiring about two hours of preparation per week carried through a semester, the fifteen to twenty-one credit programs shown in the curricular plans represent a full forty-hour academic work week. A three-hour laboratory period is generally regarded as the equivalent of one credit. Students who wish to graduate in four calendar years but who wish to schedule sixteen or fewer credits per semester may accomplish this by deferring certain courses until the spring or summer term. Students should check with their advisors regarding the courses that can best be taken in Spring/Summer term. Students who do not follow the sequence as outlined by their department must make sure that all course prerequisites are satisfied.

Specific requirements for these bachelors degrees may be found in the departmental sections for this College. These requirements are in effect as of the publication date of this bulletin; however, students should consult an academic advisor for verification of current requirements. The following discussion concerns generic aspects common to all Bachelor of Science engineering programs with the exception of Computer Science.

Basic Science Requirement

In order to meet accreditation requirements, all undergraduate engineering students are required to complete at least fifteen credits of basic science courses, including CHM 1225 and CHM 1230, PHY 2170 or PHY 2175 and PHY 2185. These courses are required in all of the engineering curricula (with the exception of computer science), and it should be noted that certain curricula require the completion of prescribed science laboratories and/or additional chemistry and physics courses.

In addition, each student must elect a basic or advanced science course. Students should consult with their advisor for the current list of acceptable courses.

Mathematics Requirement

Engineering students use mathematics as a tool in all engineering and science courses in their college curricula, as well as later upon entry into the engineering profession. All prospective engineering students are encouraged to complete the number of units of mathematics stipulated in the section entitled Recommended High School Preparation, see High School Preparation, Recommended. Ideally, engineering students elect the first course in calculus (MAT 2010) in their first freshman term; however, many incoming students are not prepared to begin the mathematics program with calculus, and additional foundational coursework is necessary to strengthen the student's background. This foundational coursework is not included in the total credits required for an engineering degree. All students entering the Division of Engineering with no transfer credit in calculus must take the Mathematics Placement Examination (see above).

General Education Requirements

All students must satisfy the General Education Requirements (p. 34) of the University. In some cases, the College prescribes a more limited set of alternatives than permitted by the University in order to meet accreditation requirements while optimizing a path towards the degree. Students are cautioned to observe the following College requirements when selecting courses to satisfy General Education Requirements.

Communication Skills

In addition to the basic composition course ENG 1020 (BC), six credits in communication skills (ENG 3050 and ENG 3060 are required of all Engineering students, and these satisfy the Intermediate Composition (IC) and Oral Communication (OC) requirements of the University.

Inquiries

Engineering today extends far beyond technical decisions. Far-reaching effects of man-made technology require the engineer to be aware of and sensitive to his or her social responsibilities. Courses involving the engineer in sociological, economic, and aesthetic study are incorporated into the engineering program in order to insure an understanding beyond technical problems, which will enable the complete engineer to make value judgments concerning the impact of this technology upon society.

The College has, therefore, included a program in the social sciences and the humanities as a part of all engineering curricula. This program is integrated with the non-science portion of the University's General Education Program, which requires a student to elect one course from each of six categories. The Engineering Division imposes requirements in addition to the University-wide restrictions on some of the courses that satisfy General Education Requirements. These restrictions are described above and are shown in the degree requirements for each engineering program.

Technical Electives

Technical electives may be chosen from a selection of course offerings of the College of Engineering and the advanced science and mathematics courses of the College of Liberal Arts and Sciences. Other courses, such as advanced courses in the Mike Ilitch School of Business, may be elected with the prior approval of the undergraduate program director. The purpose of the technical elective is to increase the depth or breadth of one's professional knowledge. Courses should be selected so as to meet this objective. Engineering courses elected as technical electives

are normally selected at the 5000-level. These courses are open to both undergraduate and graduate students. Technical electives require the approval of a student's department and should be discussed with his or her academic advisor.

Placement and Qualifying Examinations

All entering freshmen must take the placement examinations in mathematics, chemistry and English. Transfer students who do not have transfer credit equivalent to MAT 2010, CHM 1225/CHM 1230, and ENG 1020 (with a grade of 'C' or higher) must take the appropriate placement examination. Consult the Office of Testing, Evaluation, and Student Life Research Services (http://www.testing.wayne.edu) for information regarding the schedule for the examinations.

Chemistry (Qualification Exam)

The sequence of chemistry courses for the engineering student normally begins with CHM 1225 and CHM 1230. Qualification for CHM 1225 and CHM 1230 requires a satisfactory score on the Chemistry Placement Examination. If a student is not properly prepared to consider placement in CHM 1225 and CHM 1230, direct entry into CHM 1040 is permissible.

English (Placement Exam)

All entering freshmen and transfer students shall determine their aptitude in English composition by taking the English Placement Examination unless they have earned credit equivalent to ENG 1020 through transferred courses, AP examinations, or the CLEP program. Students whose score on the English Placement Examination indicates a need for additional instruction and practice in writing must elect and pass ENG 1010 before they can enroll in ENG 1020.

Mathematics (Qualification Exam)

The sequence of mathematics courses for the engineering student normally begins with MAT 2010. For admission to MAT 2010, a qualifying examination must be passed. The placement examination must be taken by all students who have not transferred in the equivalent of MAT 2010, completed with at least a grade of 'C', or through AP credit. Students may apply to take the placement examination for either MAT 1800 or MAT 2010 depending upon their preparation in mathematics. The MAT 1800 Placement Examination is based upon one and one-half years of high school algebra and one year of high school geometry. The MAT 2010 Placement Examination is based upon a total of three and one-half to four years of college preparatory mathematics covering algebra, plane and solid geometry and trigonometry.

Failure to qualify for MAT 2010 may result in the student being placed in a lower level course such as MAT 0993, MAT 1050, or MAT 1800, depending upon the student's performance. Engineering students who qualify at the MAT 0995/MAT 1050 level are required to take MAT 1050 instead of MAT 0995. In addition, students are required to take the seven-credit, PREP version of MAT 1050 in order to obtain a stronger foundation in mathematical problem solving. Requests for exceptions to this requirement (allowing students to complete the five-credit version of MAT 1050 must be made to the Associate Dean for Academic Affairs. Engineering students who do not take the Mathematics Placement Examination prior to registration for the first semester of the freshman year must enroll in MAT 0993

Emerging Scholars and Rising Scholars Programs

All engineering students who place into MAT 1050, MAT 1800 or MAT 2010 are encouraged to apply to the Emerging Scholars Program. Students who place into MAT 0993 are required to apply to the Rising Scholars Program. These are enhanced mathematics programs that provide additional experience in mathematical applications and problem solving, better preparing students for engineering problem solving. Contact the Department of Mathematics for more information: 1150 Faculty/Administration Building; 313-577-2479.

Eos Program

Students who meet the requirements for University admission but do not meet the academic record or placement requirements of the pre-professional or professional programs will be admitted to the Eos Program.

The Eos Program is designed for those students who are interested in pursuing a degree in engineering but who may need some additional foundational work in mathematics and science in order to obtain the requisite background to succeed. Eos students participate in the following two-semester sequence of courses with a cohort of students:

Code	Title	Credits
Fall Semester		
FYS 1010	Learning with the Brain in Mind	1
MAT 1050	Algebra With Trigonometry	7
BE 1200	Basic Engineering I: Design in Engineering	3
ENG 1020	Introductory College Writing	3
ECO 2010	Principles of Microeconomics	4
Winter Semester		
CHM 1040	Chemistry Skills and Reasoning	4
MAT 1800	Elementary Functions	4
MAT 1990	Precalculus Workshop	2
General Education Course		3
Total Credits		31

In order to progress from the Eos Program to the pre-professional program, a student must complete each of the required courses with a grade of 'C-minus' or higher and an overall grade point average of at least 2.5. Only two substandard grades (p. 136) are permitted within the Eos requirements if a student wishes to remain in the College. Students receive close attention from the engineering advisors so that early intervention may be arranged for students who face academic difficulties. As part of this course work, each Eos student meets on a weekly basis with an engineering mentorship group to provide an opportunity for discussion and peer support.

Students who place into MAT 0993 must complete this course in addition to those listed above. This requirement will delay completion of the Eos Program until the end of the spring/summer semester. Students who place into MAT 0993 should work closely with their academic advisor to develop a three-semester plan of courses to satisfy the Eos requirements.

Basic Engineering Courses

The following courses in basic engineering are of a general nature and are used by students in all of the Division of Engineering disciplines.

BE 1001 Engineering Bridge Mentorship Program Participant I Cr. 1
Required peer mentorship program for Engineering Bridge students. Offered Every Term.
Corequisite: BE 1060
Restriction(s): Enrollment is limited to students with a major in Engineering.

BE 1002 Engineering Bridge Mentorship Program Participant II Cr. 0
Required peer mentorship program for Engineering Bridge students. Offered Winter.
Corequisite: BE 1060

BE 1050 Introduction to the Engineering Profession Cr. 2
This course introduces new engineering students to the profession and practice of engineering, the history of engineering, and its various disciplines. The importance of teams to the practice of engineering is demonstrated. Offered Fall.

BE 1060 Building a Foundation for College Success Cr. 1
Satisfies General Education Requirement: Wayne Experience
This course is designed to expose students to the Wayne State University undergraduate experience. Students will gain an understanding of campus resources, institutional values, and the merits of a liberal arts education from an urban research one university. This course will aid in the development of critical and analytical thinking skills necessary for college success while determining one's academic and professional goals. Offered Winter.
Restriction(s): Enrollment limited to students with a class of Freshman.

BE 1101 Introduction to Officership Cr. 1
Classroom introduction to leadership, and the experiential examination of leadership, followership, decision-making, and group accomplishment of tasks. Offered Every Other Year.

BE 1102 Introduction to Leadership Cr. 1
Continuation of B E 1101; focus on communications, leadership, and problem-solving. The light infantry platoon and the troop leading process. Offered Every Other Year.
Prerequisite: BE 1101 with a minimum grade of C-

BE 1200 Basic Engineering I: Design in Engineering Cr. 3
Core principles of engineering practice: design, teamwork, professional ethics. Offered Fall, Winter.
Prerequisite: MAT 1800 (may be taken concurrently) with a minimum grade of C or MAT 2020 (may be taken concurrently) with a minimum grade of C- or MAT 2030 (may be taken concurrently) with a minimum grade of C- or MAT 2010 (may be taken concurrently) with a minimum grade of C-
Course Material Fees: $50

BE 1300 Basic Engineering II: Materials Science for Engineering Applications Cr. 3
Fundamentals of materials science; emphasis on how material properties and behavior affect engineering applications. Offered Every Term.
Prerequisites: CHM 1225 with a minimum grade of C- or CHM 1220 with a minimum grade of C- and CHM 1230 with a minimum grade of C- and May be taken concurrently: BE 1200 with a minimum grade of C- and May be taken concurrently: PHY 2170 with a minimum grade of C- or PHY 2175 with a minimum grade of C- and May be taken concurrently: MAT 2020 with a minimum grade of C-
Corequisite: BE 1310

BE 1310 Materials Science for Engineering: Laboratory Cr. 1
Laboratory component of B E 1300. Offered Every Term.
Corequisite: BE 1300
Course Material Fees: $35

BE 1500 Introduction to Programming and Computation for Engineers Cr. 3
Use of computational tools, such as Excel and MATLAB, to solve engineering problems. Topics include general engineering problem solving, algorithm development, programming, and computational analysis. Offered Fall, Winter.
Prerequisites: MAT 2010 with a minimum grade of C-
Restriction(s): Enrollment is limited to Undergraduate level students.

BE 2100 Basic Engineering III: Probability and Statistics in Engineering Cr. 3
An introduction to application of probability theory and statistical methods in engineering, including design and manufacturing. Offered Every Term.
Prerequisite: MAT 2020 (may be taken concurrently) with a minimum grade of C-

BE 2201 Innovative Tactical Leadership Cr. 1
Military organizational leadership with focus on leadership development and interpersonal group dynamics. Offered Every Other Year.
Prerequisite: BE 1102 with a minimum grade of C-

BE 2202 Leadership in Changing Environments Cr. 2
Challenges of leading in complex contemporary operational environments. Cross-cultural challenges of leadership applied to practical Army leadership tasks and situations. Offered Every Other Year.
Prerequisite: BE 1102 with a minimum grade of C-

BE 3000 Engineering Bridge Mentorship Program Leader Cr. 0
Documentation of mentor participation in Engineering Bridge Program. Offered Every Term.
Restriction(s): Enrollment limited to students in the College of Engineering; enrollment limited to students in the following programs: BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering.

BE 3301 Leading Small Organizations I Cr. 2
Leadership development and interpersonal and group dynamics. Methods of visualizing, planning and leading organizations to achieve set goals. Offered Every Other Year.

BE 3302 Leading Small Organizations II Cr. 2
Offered Every Other Year.
Prerequisite: BE 3301 with a minimum grade of C-

BE 3500 Co-Op Record Cr. 0
Engineering practice under supervision in cooperative education program. Offered Every Term.
Restriction(s): Enrollment limited to students in the College of Engineering; enrollment limited to students in the following programs: BS in Chemical Engineering, BS in Civil Engineering, BS in Computer Science, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering.

BE 3510 Co-Op Experience Cr. 1
Engineering practice under supervision in cooperative education program. Written report required. Offered Every Term.
Restriction(s): Enrollment limited to students in the College of Engineering; enrollment limited to students in the following programs: BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering.
Repeatable for 4 Credits

BE 3900 National Design Competition Participant Cr. 0
For engineering undergraduates who are active team members in national engineering design competition projects. Satisfactory completion of this course will document active participation throughout the semester. Offered Every Term.

BE 4401 Leadership and Management Cr. 3
Multiple styles and theories of leadership; ethical decision making, especially as relating to changing organizational and individual behavior; accomplishing goals in resource-constrained environments. Offered Every Other Year.
Prerequisite: BE 3302 with a minimum grade of D-

BE 4402 Military Professionalism and Professional Ethics Cr. 3
Evaluation and assessment of needs of subordinate units and individuals; near-term and short-term plans to address these needs. Analysis of a historical battle as well as analysis of moral and leadership dilemmas in history. Offered Every Other Year.
Prerequisite: BE 4401 with a minimum grade of C-

BE 5900 National Design Competition Projects Cr. 1-4
Primarily for engineering undergraduates who are dedicating a substantial amount of effort towards college-sponsored national design competition projects. Offered Every Term.
Repeatable for 99 Credits

BE 5995 Special Topics in Engineering Cr. 4
Special topics not covered in other courses; topics announced in Schedule of Classes. Offered Every Term.
Repeatable for 99 Credits

BE 5998 Engineering Honors Thesis Cr. 1-4
Completion of required Honors Thesis. Offered for undergraduate credit only. Offered Every Term.
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the College of Engineering; enrollment limited to students in the following programs: BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering.
Repeatable for 99 Credits

Engineering Special Topics Courses

The following special topics courses are of a general nature and are used by students in all of the Division of Engineering disciplines.

EGR 5655 Innovation & Entrepreneurship I Cr. 3
Provides education and hands-on experience in innovation and entrepreneurship applied to enterprise, product and service design and delivery. The first of a 2-semester sequence, this course teaches methods and tools to find, formulate, and develop engineering innovation and entrepreneurship, leading to practical, relevant, and productive new commercial and social enterprises. Offered Fall.
Restriction(s): Enrollment limited to students in the College of Engineering.

EGR 5656 Innovation & Entrepreneurship II Cr. 3
Provides education and hands-on experience in innovation and entrepreneurship applied to enterprise, product and service design and delivery. This course is the second of a 2-semester sequence. This course teaches methods and tools to find, formulate and develop engineering innovation and entrepreneurship, leading to practical, relevant, and productive new commercial and social enterprises. Offered Winter.
Restriction(s): Enrollment limited to students in the College of Engineering.

EGR 5657 Innovation & Entrepreneurship Lab Cr. 1
Provides hands-on application of Lean LaunchPad principles in innovation and entrepreneurship applied to enterprise, product and service and delivery. Offered Every Term.
Restriction(s): Enrollment limited to students in the College of Engineering.
Repeatable for 2 Credits

EGR 5995 Special Topics in Engineering Cr. 1-4
State of the art research, development and practice topics from across the fields of engineering; emphasis on interdisciplinary topics. Offered Every Term.
Restriction(s): Enrollment limited to students in the College of Engineering.
Repeatable for 4 Credits

Biomedical Engineering

Office: 818 W. Hancock; 313-577-1344
Chairperson: John M. Cavanaugh
http://engineering.wayne.edu/bme/

Biomedical engineering (BME) is one of the fastest growing disciplines in engineering. This field has developed from the knowledge that engineering principles can be applied to better understand how the human body functions as well as the effect that outside forces have on it, whether they be diagnostic or traumatic. A biomedical engineer brings together traditional engineering principles with the life sciences in a completely integrated fashion. The result is an engineer who views the human body as a complex system, its diseases and injuries as breakdowns in that system, and medical interventions as design alternatives for the repair of the system. As the population ages and medical costs increase, biomedical engineers are required both to understand the mechanistic causes of injury and disease and to design and implement interventions to prevent and mitigate the suffering of individuals and to reduce the cost of medical care to society.

Wayne State has a long history with respect to biomedical engineering research. In 1939, faculty from the College of Engineering and School of Medicine began collaborating to investigate the mechanisms of injuries to the human body, and educational programs in the area of biomedical engineering have existed at Wayne State since the 1950s. They have developed from a few courses taken within traditional engineering departments to the graduate degree program in biomedical engineering, introduced in 1998. The Department of Biomedical Engineering, interdisciplinary between the College of Engineering and the School of Medicine, was established in 2002. Drawing upon the strengths of the biomedical engineering graduate program, the Department has established a new undergraduate program that accepted its first students for the Fall 2010 semester.

- Biomedical Engineering (B.S.) (p. 144)

Biomedical Engineering (B.S.)

Wayne State's undergraduate program in biomedical engineering is built upon a strong foundation of engineering that integrates biomedical sciences early in the curriculum and continuously throughout subsequent coursework. In order to prepare students for careers and/or further education, traditional lectures are combined with problem-based and project-based learning to allow students to immediately apply their foundational knowledge to biomedical engineering challenges. From the first week of the program, through an ongoing partnership with the Medical School and affiliated hospitals, students are introduced to real world biomedical engineering problems and tools so as to develop a thorough understanding of the challenges faced in clinical medicine. All students are also encouraged to become actively involved in one of the research groups of the Department for which opportunities are available as early as freshman year. Before the junior year all biomedical engineering students must select one of three concentrations: biomaterials, biomechanics, or bio-medical instrumentation.

The program's objectives are to prepare graduates who, within a few years of graduation, will be able to:

1. Work with individuals of diverse backgrounds on multidisciplinary problems to translate biomedical science into applications across the health and life sciences.
2. Advance tools to solve biomedical engineering problems and design biomedical engineering systems.

3. Continue their education and self-directed learning in engineering and biomedicine.

The B.S.B.M.E. program is coordinated by the Undergraduate Program Chairperson with the assistance of the Departmental academic advisor. These individuals are available to support students in selecting courses, identifying research and internship opportunities, and discussing plans for after graduation. Students are encouraged to join and actively participate in the campus chapter of the Biomedical Engineering Society (BMES) for networking and professional development opportunities.

Admission Requirements

Students qualifying for admission to the College of Engineering must select the B.S.B.M.E. program in the online application. The applicant must provide supporting documentation as instructed. Due to the challenging nature of biomedical engineering, the undergraduate program is highly selective and admits students who have a demonstrated ability in math and science. In addition, the program is structured as a cohort-based program. Therefore, admission by transfer students requires completion of a minimum set of prerequisite courses. First year students are accepted for the fall semester only. Students wishing to join the program in the second year are accepted for the spring/summer semester in order to complete some required coursework before joining their cohort in the fall.

Freshman Admission: Students wishing to enter the program immediately following high school are expected to have a minimum math/science g.p.a. of 3.5 and a minimum Math ACT/SAT score of 29/670. Students who have completed college-level coursework through dual enrollment programs will still be considered as freshmen. For full consideration for fall admission, including all scholarship opportunities, students should apply to the University and the Biomedical Engineering Program by December 1. Following admission, students must confirm placement into at least Calculus I (MAT 2010) and General Chemistry + lab (CHM 1225+CHM 1230) through either testing (ACT/SAT, AP, Placement Exams) or transfer credit. Admitted students who do not meet these criteria will have their admission deferred.

Transfer Admission: Students may apply to transfer into the program after completing college-level coursework at Wayne State or at another post-secondary institution. Transfer students may apply to join the program as part of a first year or second year cohort depending on the coursework that they have previously completed. Students wishing to join the program in the second year are required to complete BME 1925 in spring/summer semester, as well as the program first-year basic engineering coursework. The following classes should be completed, or in progress, for transfer students to be considered to join each cohort:

Code	Title	Credits
First Year Cohort		
Placement into Calculus I, General Chemistry (with lab), and Basic Composition		
Second Year Cohort		
Mathematics: Calculus I and Calculus II		
Science: General Chemistry (w/lab), Engineering Physics I, and Biology (w/lab - equivalent to BIO 1510)		
English: Basic Composition		

Applicants without all of the expected placement or coursework will be required to complete missing items during spring/summer term. Transfer students are accepted on a space-available basis. Prospective students are expected to have earned a minimum math/science g.p.a. of 3.33 in their college coursework.

Candidates for the Bachelor of Science degree must complete 123 credits of coursework, including the University General Education (p. 34) requirements. A maximum of 35 credits of Competencies, Group Requirements, and Wayne Experience Requirements (WE) shall comprise the General Education Program. Wayne Experience (WE), is a one credit course required of all first year students. Forty-eight credits of coursework must be in engineering sciences or engineering design. Most courses offered by other engineering departments count toward this forty-eight engineering credit requirement. Note: BME 2010, BME 2070, BME 4010, and BME 5070 count as life science courses and not engineering courses. All course work must be completed in accordance with the academic procedures of the University (p. 9) and the College of Engineering (p. 136) governing undergraduate scholarship and degrees. All prerequisite coursework must be completed; any waivers to listed prerequisite courses must be approved by the Undergraduate Program Chairperson. In compliance with the academic requirements of the College of Engineering, students must earn a grade of C- or higher in all courses applied to the B.S.B.M.E. degree requirements. The 8-semester curriculum for the program is provided below. Students interested in attending medical or dental school after graduation may add any remaining pre-professional requirements into their curriculum with minimal difficulty.

Biomedical Engineering Curriculum

First Year		
First Semester		**Credits**
BE 1500	Introduction to Programming and Computation for Engineers	3
BME 1910	Biomedical Engineering Design Lab I	1
CHM 1225	General Chemistry I for Engineers	3
CHM 1230	General Chemistry I Laboratory	1
ENG 1020	Introductory College Writing	3
MAT 2010	Calculus I	4
Wayne Experience		1
	Credits	16
Second Semester		
BE 1300	Basic Engineering II: Materials Science for Engineering Applications	3
BIO 1510	Basic Life Mechanisms	4
BME 1920	Biomedical Engineering Design Lab II	1
MAT 2020	Calculus II	4
PHY 2175	University Physics for Engineers I	4
	Credits	16

Second Year		
First Semester		
BME 2070	Introduction to Anatomy for Engineers	2
BME 2910	Biomedical Engineering Design Lab III	1
MAT 2030	Calculus III	4
ME 2410	Statics	3
PHY 2185	University Physics for Engineers II	4
BE 2100	Basic Engineering III: Probability and Statistics in Engineering	3
	Credits	17
Second Semester		
BME 2010	Introduction to Physiology for Engineers	2
BME 2920	Biomedical Engineering Design Lab IV	1
ECE 3300	Introduction to Electrical Circuits	4
ENG 3050	Technical Communication I: Reports	3
MAT 2150	Differential Equations and Matrix Algebra	4
ME 2420	Elementary Mechanics of Materials	3
	Credits	17
Third Year		
First Semester		
BME 3470	Biomedical Signals and Systems	3
BME 3910	Biomedical Engineering Design Lab V	1
Directed elective		4
ENG 3060	Technical Communicat II: Presentation	3
General Education Course		3
	Credits	14
Second Semester		
BME 3920	Biomedical Engineering Design Lab VI	2
BME 4010	Engineering Physiology Laboratory	1
BME 4X10		3
BME Elective Course(4-6000 level)		4
General Education Course		3
CHE 3100	Transport Phenomena I	3
	Credits	16
Fourth Year		
First Semester		
BME 4910	Biomedical Engineering Capstone Design I	3
BME Concentration Electives		8
General Education Course		3
	Credits	14
Second Semester		
BME 4920	Biomedical Engineering Capstone Design II	3
BME Concentration Elective		4
General Education Courses		6
	Credits	13
	Total Credits	123

Honors and Accelerated Master's AGRADE Program

All students in the B.S.B.M.E. program are encouraged to pursue their degree with Engineering and/or University Honors. Students can complete their requirements for Honors within the 130 credits required for the program. The required Honors thesis will satisfy the requirement for one of the concentration electives.

Students who have earned at least a 3.5 g.p.a. through their junior year may apply to the AGRADE Program. Through this program, students may earn their M.S. in biomedical engineering with one additional year of coursework (18 credits).

Chemical Engineering and Materials Science

Office: 1100 W. Engineering Building; 313-577-3800
Chairperson: Guangzhao Mao
http://engineering.wayne.edu/che/

Chemical Engineering

Chemical engineering applies the sciences of chemistry, biology, physics and mathematics in a synergistic way to develop new or improved technologies, products and processes for the benefit of mankind. The chemical engineering B.S. degree provides a strong technical background, from which graduates may enter into professional careers in fields such as petrochemical processing, energy, pharmaceuticals, medical devices, advanced materials, semiconductor processing, biotechnology, environmental control, natural and synthetic rubbers and plastics, surface coatings, food processing, cosmetics, and consumer products. Many chemical engineering undergraduates continue their studies in graduate programs (M.S. or Ph.D.) in chemical engineering, or in related disciplines such as materials science and biomedical engineering, in preparation for careers in research and development. Chemical engineering also provides excellent undergraduate preparation for professional programs in medicine (M.D.), law (J.D.), and business (M.B.A.).

The undergraduate program in chemical engineering includes studies in chemistry, mathematics, and physics, as well as an understanding of

physical, biological and chemical systems and processes. Engineering science courses cover material and energy balances, transport phenomena, thermodynamics, reaction kinetics, separation processes, and dynamics, simulation, and control of systems and processes.

In addition to the Undergraduate Program Goals, the specific objectives of the chemical engineering B.S. program are:

1. *Engineering Practice.* Graduates of the B.S. in Chemical Engineering program will have the ability to successfully pursue professional employment in an entry-level position in chemical engineering or related disciplines.
2. *Graduate Education.* Graduates of the B.S. in Chemical Engineering program will be academically well-prepared to pursue graduate study in chemical engineering and related disciplines.
3. *Science and Mathematics.* Graduates of the B.S. in Chemical Engineering program will be able to apply fundamental knowledge in chemistry, physics, biology, mathematics, and engineering to practical problems in chemical engineering, and related disciplines.
4. *Engineering Analysis.* Graduates of the B.S. in Chemical Engineering program will be able to apply theoretical, computational, and experimental methods to solve engineering problems.
5. *Design.* Graduates of the B.S. in Chemical Engineering program will be able to apply principles and methods of chemical engineering to the design of chemical processes and products.
6. *Communications.* Graduates of the B.S. in Chemical Engineering program will be able to communicate effectively in oral and written technical presentations and reports.
7. *Professionalism.* Graduates of the B.S. in Chemical Engineering program will be aware of the social responsibility of engineers and the importance of ethics in the engineering profession.
8. *Self-learning.* Graduates of the B.S. in Chemical Engineering program will be able to acquire new knowledge through self-learning and continuing education, as needed in their professional careers.
9. *Co-op and Undergraduate Research Experience.* Graduates of the B.S. in Chemical Engineering program will have received opportunities to enrich their preparation for professional practice and/or graduate studies through co-op experience and internships, and through undergraduate research experiences.
10. *Advanced Technical Knowledge.* Through the program's curriculum options, graduates of the B.S. in Chemical Engineering program will have acquired in-depth knowledge in one of the following areas: Product and Process Engineering; Biological Engineering; Molecular Engineering and Nanotechnology.

- Chemical Engineering (B.S.) (p. 147)

Chemical Engineering (B.S.)

Chemical engineering applies the sciences of chemistry, biology, physics and mathematics in a synergistic way to develop new or improved technologies, products and processes for the benefit of mankind. The chemical engineering B.S. degree provides a strong technical background, from which graduates may enter into professional careers in fields such as petrochemical processing, energy, pharmaceuticals, medical devices, advanced materials, semiconductor processing, biotechnology, environmental control, natural and synthetic rubbers and plastics, surface coatings, food processing, cosmetics, and consumer products. Many chemical engineering undergraduates continue their studies in graduate programs (M.S. or Ph.D.) in chemical engineering, or in related disciplines such as materials science and biomedical engineering, in preparation for careers in research and development. Chemical engineering also provides excellent undergraduate preparation for professional programs in medicine (M.D.), law (J.D.), and business (M.B.A.).

The undergraduate program in chemical engineering includes studies in chemistry, mathematics, and physics, as well as an understanding of physical, biological and chemical systems and processes. Engineering science courses cover material and energy balances, transport phenomena, thermodynamics, reaction kinetics, separation processes, and dynamics, simulation, and control of systems and processes.

Admission Requirements: Admission is contingent upon satisfaction of the general undergraduate admission requirements of the University (p. 22) and the bachelor of science programs in the College of Engineering (p. 139).

Mission Statement

As an urban research university, our mission is to discover, examine, transmit, and apply knowledge that contributes to the positive development and well-being of individuals, organizations, and society. Wayne State University is a national research institution dedicated to preparing students to excel in an increasingly advanced and interconnected, global society.

Program Educational Objectives

1. The overall objective of the BS CHE program at Wayne State University is to prepare students for a) success in their immediate and long-term careers as practicing chemical engineers; and b) success in continuing education in graduate and professional schools.

2. The program supports the university's urban mission by promoting diversity and encouraging disadvantaged and nontraditional students to enter the engineering profession.

3. We utilize our faculty's strengths in research to enrich undergraduate education through: a) individual undergraduate research experiences; and b) we engage in educational partnerships with our industrial constituents in southeastern Michigan through an active undergraduate coop program.

Student Outcomes

The Student Outcomes are described below, and the contribution of each Program Outcome to the ABET Criterion 3 components a-k is explained. ABET Criterion 3 (a)-(k) can be found at: http://www.abet.org/accreditation/accreditation-criteria/criteria-for-accrediting-engineering-programs-2016-2017/#outcomes.

1. **Chemistry.** Graduates of the BS CHE program will possess a strong grounding in Chemistry, together with a working knowledge of organic chemistry and materials science. Graduates will possess a working knowledge of either physical chemistry or biochemistry, depending on their choice of Curriculum Options. Contributes to the Science portion of Criterion 3 component (a).

2. **Math and Science.** Graduates of the BS CHE program will possess a working knowledge of mathematics, including calculus through differential equations, and they will be able to apply modern mathematical and computational techniques to the solution of engineering problems. Graduates will be well grounded in physics and biology. Contributes to the Math and Science parts of Criterion 3, component (a).

3. **Chemical Engineering Fundamentals.** Graduates of the BS CHE program will possess a working knowledge of material and energy balances applied to chemical processes; thermodynamics of physical and chemical equilibrium; fluid flow and heat transfer; chemical reaction kinetics and reaction engineering; mass transfer and separation

processes, and they will be able to apply this knowledge to identify, formulate, and solve engineering problems. Contributes to the Engineering part of Criterion 3, component (a), and to Criterion 3, component (e). Contributes broadly to Criterion 3 components (c), (h), and (k).

4. **Chemical Process Engineering.** Graduates of the BS CHE program will possess a working knowledge of process dynamics and control and product and process design. Contributes to the Engineering part of Criterion 3, component (a). Contributes intensively to Criterion 3, components (c),(d), (e), (h) and (k) through the capstone design project in CHE 4200 (Product and Process Design).

5. **Design Experience.** Graduates of the BS CHE program will develop skills in engineering design via content throughout the curriculum that includes identification, formulation, and solution of open-ended problems, scale-up concepts, consideration of safety and environmental issues, and understanding of economic factors. Contributes to the engineering part of Criterion 3, component (a). Contributes intensively to Criterion 3, components (c),(d), (e), (f), (h) and (k) through the capstone design projects in CHE 4200 (Product and Process Design) and CHE 4800 (Chemical Process Integration) .

6. **Laboratory Experience.** Graduates of the BS CHE program will develop experimental skills via laboratory experiences relevant to chemical engineering principles, covering design of appropriate experiments for measurement of engineering properties and process variables, the analysis and interpretation of data, written and oral presentation of results, and teamwork skills including project management and multidisciplinary team functions. Contributes broadly to Criterion 3, components (a), (e), (h), and (k). Contributes intensively to Criterion 3, components (b), (d), (f), and (g).

7. **Advanced Technical Knowledge.** Graduates of the BS CHE program will develop in-depth knowledge of an advanced area of chemical engineering through a variety of technical elective course options. Contributes to Criterion 3, components (a), (e), (h), (i), (j), and (k).

8. **Communication Skills.** Graduates of the BS CHE program will be able to communicate effectively in oral presentations, electronic communications, and written technical reports. Contributes to Criterion 3, component (g).

9. **Professionalism.** The BS CHE program will develop awareness in staying current with the changing chemical engineering profession through lifelong learning and continuing professional development. The BS CHE program will foster the development of professional conduct through awareness of the importance of ethics, safety, environmental issues, and sustainability to the practice of chemical engineering. Contributes to Criterion 3, components (c), (f), (h), (i), and (j).

Candidates for the Bachelor of Science degree must complete 128-130 credits of coursework, including the University General Education (p. 34) requirements. Forty-eight credits of coursework must be in engineering sciences or engineering design. All course work must be completed in accordance with the academic procedures of the University (p. 9) and the College of Engineering (p. 136) governing undergraduate scholarship and degrees. Non-engineering entries, cited below by subject rather than individual course number, indicate courses to be selected in fulfillment of the University General Education Requirements. Degree requirements shown in the curricula below are in effect as of the publication date of this Bulletin. Students should consult their advisors for verification of current requirements.

First Year

First Semester		**Credits**
BE 1200	Basic Engineering I: Design in Engineering	3
MAT 2010	Calculus I	4
CHM 1225	General Chemistry I for Engineers	3
CHM 1230	General Chemistry I Laboratory	1
ENG 1020	Introductory College Writing	3
Wayne Experience		1
	Credits	15
Second Semester		
BE 1500	Introduction to Programmin and Computatior for Engineers	3
MAT 2020	Calculus II	4
CHM 1240	Organic Chemistry I	4
CHM 1250	Organic Chemistry I Laboratory	1
PHY 2175	University Physics for Engineers I	4
	Credits	16

Second Year

First Semester		
BE 1300	Basic Engineering II: Materials Science for Engineering Applications	3
BE 1310	Materials Science for Engineering: Laboratory	1
MAT 2030	Calculus III	4
PHY 2185	University Physics for Engineers II	4
CHE 2800	Material and Energy Balances	4
	Credits	16
Second Semester		
MAT 2150	Differential Equations and Matrix Algebra	4
BE 2100	Basic Engineering III: Probability and Statistics in Engineering	3
CHE 3100	Transport Phenomena I	3

CHM 2225	Organic Chemistry II for Engineers	3
ECO 2010 or ECO 2020	Principles of Microeconor or Principle of Macroec	4
	Credits	17

Third Year

First Semester

CHE 3300	Thermodyna Chemical Equilibria	4
CHE 3600	Transport Phenomena II	3
ENG 3050	Technical Communicat I: Reports	3
BIO 1510	Basic Life Mechanisms	4
PHI 1120	Professional Ethics	3
	Credits	17

Second Semester

CHE 3220	Measuremer Laboratory	2
CHE 3400	Kinetics and Reactor Design	4
CHE 3800	Separation Processes	3
CHE 4260	Chemical Engineering Seminar I	0
CHM 5440 or CHM 5600	Physical Chemistry II [1] or Survey of Biochem	3-4
ENG 3060	Technical Communication II: Presentations	3
	Credits	15-16

Fourth Year

First Semester

CHE 3820	Chemical Engineering Laboratory	2
CHE 4200	Product and Process Design	3
CHE 4260	Chemical Engineering Seminar I	0
CHE 4600	Process Dynamics and Simulation	3
CHE 4860	Chemical Engineering Seminar II	1
Chemical Engineering Technical Elective		6
	Credits	15

Second Semester

Chemical Engineering Technical Electives		2-3
CHE 4800	Chemical Process Integration	3
CHE 6570	Safety in the Chemical Process Industry	3
Global Learning		3
Diversity, Equity and Inclusion		3
Civic Literacy		3
	Credits	17-18
	Total Credits	128-130

1 Elect either CHM 5440 and 8 Technical Elective Credits, or CHM 5600 and 9 Technical Elective Credits.

Civil and Environmental Engineering

Office: 2100 E. Engineering Building; 313-577-3789
Chairperson: Mumtaz Usmen
http://www.engineering.wayne.edu/cee

Civil engineers apply the principles and techniques of engineering to the design and integration of complex systems. They have traditionally been leaders in many aspects of urban development and the urban crisis in America has brought into focus the profession of civil engineering and the responsibilities of its practitioners. The civil engineer is a leader in such diverse areas of concern as:

- the design and control of structural systems, including tall buildings, bridges and transportation systems necessary for urban development, commerce and industry;
- water resources planning and management;
- containment and treatment of hazardous wastes;
- design of collection and treatment systems for sanitary and storm sewage;
- water treatment and distribution systems;
- construction management; and
- the integration and management of public works projects designed to improve the urban infrastructure.

Obviously, the responsibilities of the civil engineer directly involve the health, safety and welfare of the public.

The Civil and Environmental Engineering Department maintains laboratories for teaching and research in the areas of: structures/ materials, transportation, hydraulics, geotechnical, geoenvironmental, infrastructure systems, and environmental engineering.

Laboratories include facilities for testing structural components under static and dynamic loads; strain measurement; traffic simulation; and fluid flow. The Department and the University maintain excellent computer facilities for data acquisition and analysis, including several advanced software packages specific to civil engineering.

- Civil Engineering (B.S.) (p. 149)

Civil Engineering (B.S.)

Mission Statement

The mission of the Civil and Environmental Engineering Department is to provide high-quality, state-of-the-art educational and research programs.

The Department strives for excellence in its academic programs, its research endeavors, and its university, community and professional service activities. The program is designed to prepare graduates for success in their immediate, as well as long-term, professional careers as practitioners, for obtaining a professional license, and for pursuing advanced studies and lifelong learning.

Program Educational Objectives

The graduates of the Civil and Environmental Engineering Program, in their early careers, will be expected to:

1. apply their knowledge and skills as effective, productive civil engineers within private corporations, engineering consulting firms, as well as local, state and federal government agencies in the design of contemporary civil engineering systems and processes
2. work and communicate effectively with others on multidisciplinary teams to develop practical, technically sound, cost-effective solutions to complex and diverse civil engineering problems
3. build upon the fundamental knowledge gained in the undergraduate program of study, allowing analysis and design in alternative and innovative conditions
4. engage in the profession in an ethical and responsible manner
5. exhibit leadership skills
6. become and remain active members within professional and technical societies

Student Outcomes

Graduates of the Civil and Environmental Engineering Department will demonstrate the following skills and attributes when they receive their B.S. degrees:

a) apply knowledge of mathematics, science and engineering to solve civil engineering problems

b) design and conduct experiments; collect and interpret data

c) design a civil engineering system, component or process to meet specific needs

d) collaborate and communicate on multi-disciplinary teams

e) identify, formulate and solve civil engineering problems

f) demonstrate understanding of ethical and professional responsibility of a civil engineer

g) communicate effectively in oral and written form

h) demonstrate understanding of global and societal issues as they pertain to civil engineering

i) explain the importance of life-long learning and continuing education

j) demonstrate knowledge of contemporary issues

k) demonstrate proficiency in using modern engineering tools in the practice of civil engineering

l) explain the aspects of professional practice issues relevant to the civil engineering profession (include principles of sustainability in design; explain basic concepts in project management, business, public policy, and leadership; analyze issues in professional ethics; and explain the importance of professional licensure)

The civil engineering curriculum has been designed to provide a broad education in the basic sciences, mathematics, and engineering sciences, civil engineering analysis and design, and their application to civil engineering practice. The courses in civil engineering may be considered as an array of groups, each representing an area of concern to contemporary society and industry. Technical electives may be selected from one of these major areas according to the student's particular interest or may be chosen from several areas in order to broaden one's knowledge. A student who contemplates continuing study at the graduate level should seek the advice of his/her faculty counselor in the selection of elective courses. Realizing the social implications of the practice of civil engineering, the program provides for the development of a background in economics, the social sciences, humanities, communication skills, ethics, and related non-technical areas.

Admission Requirements: Admission is contingent upon satisfaction of the general undergraduate admission requirements of the University (p. 22) and the bachelor of science programs in the College of Engineering (p. 139).

Candidates for the Bachelor of Science degree must complete 123-126 credits of coursework, including the General Education (p. 34) requirements. All course work must be completed in accordance with the academic procedures of the University (p. 9) and the College of Engineering (p. 136) governing undergraduate scholarship and degrees. Non-engineering entries, cited below by subject rather than individual course number, indicate courses to be selected in fulfillment of the University General Education Requirements. The degree requirements shown in the curriculum below are in effect as of the publication date of this bulletin. Students should consult their advisors for verification of current requirements.

First Year

First Semester		**Credits**
MAT 2010	Calculus I	4
CHM 1225	General Chemistry I for Engineers	3
CHM 1230	General Chemistry I Laboratory	1
BE 1200	Basic Engineering I: Design in Engineering	3
ENG 1020	Introductory College Writing	3
Wayne Experience (WE)		1
	Credits	15
Second Semester		
MAT 2020	Calculus II	4
PHY 2175	University Physics for Engineers I	4
BE 1500	Introduction to Programmin and Computatior for Engineers	3
ECO 2010 or ECO 2020	Principles of Microeconomics or Principles of Macroeconomics	4

Civic Literacy (CIV) course		3
	Credits	18
Second Year		
First Semester		
MAT 2030	Calculus III	4
PHY 2185	University Physics for Engineers II	4
BE 2100	Basic Engineering III: Probability and Statistics in Engineering	3
CE 2410	Statics (ME 2410)	3
	Credits	14
Second Semester		
MAT 2150	Differential Equations and Matrix Algebra	4
CE 2420	Elementary Mechanics of Materials	3
CE 3450	Civil Engineering Materials	4
ENG 3050	Technical Communicat I: Reports	3
Physical Science Elective [1]		3-4
	Credits	17-18
Third Year		
First Semester		
CE 3250	Applied Fluid Mechanics	4
CE 4400	Structural Analysis	4
CE 4510	Introduction to Geotechnical Engineering	4
CE 4850	Engineering Economy	3
	Credits	15
Second Semester		
CE 4210	Introduction to Environment Engineering	3
CE 4410	Steel Design	3
CE 4600	Transportati Engineering	3
PHI 1120	Professional Ethics	3
Diversity, Equity, and Inclusion (DEI) course		3
	Credits	15
Fourth Year		
First Semester		
CE 4240	Environment Engineering Design	3
CE 4420	Reinforced Concrete Design	3
CE 4640	Transportati Design	3
CE Technical Elective		3
CE Design Elective		3-4
	Credits	15-16
Second Semester		
CE 4995	Senior Design Project	3
CE Technical Elective		3
CE Design Elective		3-4
ENG 3060	Technical Communication II: Presentations	3
Global Learning (GL) course		3
	Credits	15-16
	Total Credits	124-127

[1] Students may select from BIO 1050, BIO 1510 or GEL 1010 to meet the Physical Science elective requirement.

Technical Electives: Civil Engineering students are required to complete at least six credits in technical electives. Applicable courses include CE 3010, CE 3070, any CE course at the 5000 or 6000 level, or other courses approved by the undergraduate program coordinator.

Design Electives: Students are required to complete two courses from:

Code	Title	Credits
CE 5230	Water Supply and Wastewater Engineering	3
CE 5410	Energy, Emissions, Environment (E3) Design	3
CE 5510	Geotechnical Engineering I	4
CE 5520	Geotechnical Engineering II	3
CE 5610	Highway Design	3
CE 6130	Open Channel Hydraulics	3
CE 6150	Hydrologic Analysis and Design	3
CE 6190	Groundwater	3
CE 6340	Bridge Design and Evaluation	3
CE 6370	Advanced Reinforced Concrete Design	4
CE 6410	Advanced Steel Design	3
CE 6580	Geoenvironmental Engineering I	4
CE 6660	Pavement Asset Management	3
Other courses with approval of the undergraduate program coordinator.		

Computer Science

Office: 5057 Woodward, Suite 3010; 313-577-2477
Chairperson: Loren Schwiebert
Academic Advisor: Stephanie Chastain, Colleen McKenney
h (http://www.cs.wayne.edu)ttp://engineering.wayne.edu/cs (http://engineering.wayne.edu/cs)

Mission Statement

The mission of the Department of Computer Science at Wayne State University is to provide excellence in teaching, research, public service, and leadership in the computer science profession and the community. The Department provides a high-quality, innovative, baccalaureate and graduate education that emphasizes the fundamentals of computer science as well as the most recent technological innovations, preparing students for employment and advanced studies. Students are encouraged to become involved in research programs to enhance their education and their employment opportunities. Through the use of our state-of-the-art laboratory facilities, students can conduct basic

and applied research of high quality, influence, visibility, and potential community impact. The Department continues to develop cooperative research relationships within and outside the computer science discipline, as well as with industry, government and alumni, and local community organizations. This worldwide interaction with professional organizations provides our students with the highest standards, goals, and professional practices.

Bachelor's Degree Programs

Bachelor of Arts degree programs in computer science (p. 249) and information systems technology (http://bulletins.wayne.edu/undergraduate/college-liberal-arts-sciences/information-systems-technology) are offered by the College of Liberal Arts and Science. The following academic regulations pertain to the Bachelor of Science degrees offered by this department.

Research and Instructional Laboratories

The Department of Computer Science operates a number of teaching and research laboratories. Research laboratories are organized around individual fields of research interest. The teaching laboratories are supported by the Department and are available to all students for class work and research. The Department also maintains a Learning and Resource Center.

- Computer Science (B.S.) (p. 152)
- Computer Science Minor (p. 154)
- Information Technology (B.S.) (p. 154)

Computer Science (B.S.)

The mission of the Computer Science B.S. program is to provide undergraduate students with a strong foundation in both Computer Science theory and programming practice that is necessary to solve real-world engineering problems. Through the use of state of the art software and hardware, students will learn to develop their theoretical and programming skills in order to allow them to apply these learned techniques to analyze a problem, evaluate possible solutions, and create a solution as part of a program development team. The program prepares students for engineering careers in software design, intelligent systems, big data systems and analytics, computer systems and network design, software system security, and bioinformatics. Graduates will be prepared to take positions in these areas in academia, industry and government, the local community, and will be prepared for graduate studies in Computer Science as well. In addition the program provides students with opportunities to interact with other professional institutions and exhibit the highest ethical standards in the practice of their profession.

Admission Requirements

For admission to the Bachelor of Science program, students must satisfy the admission criteria of the Division of Engineering, College of Engineering (p. 139). Students planning to major in computer science should consult with a departmental advisor as soon as possible prior to enrolling in courses. In general, the requirements in effect when a student declares a major in computer science will be those that the student must satisfy. Students should check with the department for the latest information concerning the program and requirements.

Admission following an interruption in enrollment: A student attempting to complete a computer science major after a prolonged interruption of his/her education may find that some of his/her course work in computer science is out of date. In this case, the student's record will be reviewed and the Department may require the student to fulfill additional computer science course requirements existing at the time of his/her return, and/or to retake some courses previously taken.

Transfer students should consult with an undergraduate departmental academic advisor prior to their transfer. Determination of course equivalency will be made by the Transfer Credit Evaluation Unit in conjunction with the Undergraduate Committee. The Department reserves the right of final determination of course equivalency.

Introductory Course Work: The Department of Computer Science offers a number of courses introducing students to basic computer and computing concepts. Some of these courses also serve as prerequisites for more advanced study in computer science. Some introductory courses require mathematics preparation equivalent to MAT 2010. (See course descriptions regarding the required prerequisite math courses.) CSC 1000, offered as computer-based instruction, is for non-majors who desire to learn basic computing concepts. Students who intend to major or minor in computer science will not normally take this course.

Candidates for the Bachelor of Science degree must complete 120 credits of coursework, including the University General Education (p. 34) requirements. All course work must be completed in accordance with the academic procedures of the University (p. 9) and the College of Engineering (p. 136) governing undergraduate scholarship and degrees.

Code	Title	Credits
Mathematics		
MAT 2010	Calculus I	4
MAT 2020	Calculus II	4
MAT 2030	Calculus III	4
MAT 2250	Elementary Linear Algebra	3
BE 2100	Basic Engineering III: Probability and Statistics in Engineering	3
Computer Science		
CSC 1100	Problem Solving and Programming	3
CSC 1101	Problem Solving and Programming Laboratory	1
CSC 1500	Fundamental Structures in Computer Science	3
CSC 1501	Fundamental Structures in Computer Science Lab	1
CSC 2110	Computer Science I	3
CSC 2111	Computer Science I Lab	1
CSC 2200	Computer Science II	3
CSC 2201	Computer Science II: Lab	1
CSC 3010	Ethics in Computer Science	3
CSC 3020	Java Programming	3
CSC 3100	Computer Architecture and Organization	3
CSC 3101	Computer Architecture and Organization: Lab	1
CSC 3110	Algorithm Design and Analysis	3
CSC 4110	Software Engineering	3
CSC 4111	Software Engineering: Lab	1
CSC 4420	Computer Operating Systems	3
CSC 4421	Computer Operating Systems: Lab	1
CSC 4500	Introduction to Theoretical Computer Science	3
CSC 4710	Introduction to Database Management Systems	3
CSC 4996	Senior Project and Computer Ethics	3
CSC 4997	Senior Project Lab	1
Four additional Computer Science courses numbered 3000 or above, of at least three credits each [1]		12
Program Requirements		
ENG 3050	Technical Communication I: Reports	3
or ENG 3010	Intermediate Writing	

ENG 3060	Technical Communication II: Presentations	3
PHY 2175	University Physics for Engineers I	4
PHY 2185	University Physics for Engineers II	4
PHY 2171	University Physics Laboratory	1
or PHY 2181	University Physics Laboratory II	

[1] excluding CSC 4990 and CSC 4995

(Please note that the core courses include mandatory instructional labs. These laboratories must be taken concurrently with their co-requisite lecture.)

A minimum of twenty-eight credits in computer science must be earned at Wayne State University. A minimum grade of 'C' is required in CSC 1100, CSC 1101, CSC 1500, CSC 1501, CSC 2110, CSC 2111, CSC 2200 and CSC 2201. All other courses including CSC, MAT, BE, and courses within the General Education program must adhere to the requirements of the Engineering Division as stated above.

Students declaring their major must consult an advisor for a written assessment of current requirements.

Cooperative Work-Study Program

Students who wish to enrich their education with practical computer science experience may enroll in the Cooperative Work-Study Program. In this program, full-time study terms alternate with full-time work assignments in cooperating industries. The Co-op experience provides two benefits: industrial work experience which can be included in a resume, and the possibility of being offered a full-time position with the co-op employer, upon graduation. The program takes place over a two-year period where students usually enter the program in their junior year, and most of the work assignments are in the metropolitan Detroit area. A student may enroll for no more than one course with the approval of the College Co-op Coordinator during those terms in which he/she is on a work assignment. Each term that a student is on a work assignment he/she must enroll the following term in CSC 4995. An oral and written report covering each work assignment is required of the student and performance on the job is rated by the industrial supervisor. Salaries and other benefits are paid for by the employer based upon the time spent on each work assignment. The student must be a computer science major. For details and enrollment procedures, contact the College Co-op Coordinator at the Career Services office.

'AGRADE' Program (Accelerated Graduate Enrollment)

Accelerated Graduate Enrollment: This program enables qualified seniors to enroll simultaneously in the undergraduate and graduate programs and apply a maximum of 16 credits towards both the bachelor's and master's degrees. Students electing the 'AGRADE' Program may expect to complete the bachelor's and master's degrees in five years of full-time study.

Admission Requirements: An 'AGRADE' applicant may petition the Graduate Committee of the Computer Science Department for acceptance into the program no earlier than the first semester in which ninety credits will be completed. Following Departmental Graduate Committee approval, students must seek the approval of the Graduate Officer of the College. Applicants must have an overall grade point average (g.p.a.) of 3.3 or better and a 3.45 g.p.a. or better in the major courses already completed. If the student's petition is accepted, the student shall submit a graduate Plan of Work, specifying 'AGRADE' courses to be included in subsequent semesters.

Candidates for the Bachelor of Science degree must complete 120 credits of coursework, including the University General Education (p. 34) requirements. All course work must be completed in accordance with the academic procedures of the University (p. 9) and the College of Engineering (p. 136) governing undergraduate scholarship and degrees.
(Please note that the core courses have been updated and include mandatory instructional labs. These laboratories should be taken concurrently with their corequisite lecture.)

Code	Title	Credits
Mathematics		
MAT 2010	Calculus I	4
MAT 2020	Calculus II	4
MAT 2030	Calculus III	4
MAT 2250	Elementary Linear Algebra	3
BE 2100	Basic Engineering III: Probability and Statistics in Engineering	3
Computer Science		
CSC 1100	Problem Solving and Programming	3
CSC 1101	Problem Solving and Programming Laboratory	1
CSC 1500	Fundamental Structures in Computer Science	3
CSC 1501	Fundamental Structures in Computer Science Lab	1
CSC 2110	Computer Science I	3
CSC 2111	Computer Science I Lab	1
CSC 2200	Computer Science II	3
CSC 2201	Computer Science II: Lab	1
CSC 3010	Ethics in Computer Science	3
CSC 3020	Java Programming	3
CSC 3100	Computer Architecture and Organization	3
CSC 3101	Computer Architecture and Organization: Lab	1
CSC 3110	Algorithm Design and Analysis	3
CSC 4110	Software Engineering	3
CSC 4111	Software Engineering: Lab	1
CSC 4420	Computer Operating Systems	3
CSC 4421	Computer Operating Systems: Lab	1
CSC 4500	Introduction to Theoretical Computer Science	3
CSC 4710	Introduction to Database Management Systems	3
CSC 4996	Senior Project and Computer Ethics	3
CSC 4997	Senior Project Lab	1
Four additional Computer Science courses numbered 3000 or above, of at least three credits each [1]		12
One semester of an Honors Program 4000 level seminar		3
CSC 4999	Honors Thesis	3-6
Program Requirements		
ENG 3050	Technical Communication I: Reports	3
or ENG 3010	Intermediate Writing	
ENG 3060	Technical Communication II: Presentations	3
PHY 2175	University Physics for Engineers I	4
PHY 2185	University Physics for Engineers II	4
PHY 2171	University Physics Laboratory	1
or PHY 2181	University Physics Laboratory II	

[1] excluding CSC 4990 and CSC 4995

(Please note that the core courses include mandatory instructional labs. These laboratories must be taken concurrently with their co-requisite lecture.)

A minimum of twenty-eight credits in computer science must be earned at Wayne State University. A minimum grade of 'C' is required in CSC 1100, CSC 1101, CSC 1500, CSC 1501, CSC 2110, CSC 2111, CSC 2200, and CSC 2201. All other courses including CSC, MAT, BE, and courses within the General Education program must adhere to the requirements of the Engineering Division as stated above.

The Honors Thesis is a paper presenting the results of the student's independent research. The length of the thesis may vary according to the nature of the topic and method of approach. Registration for the Honors Thesis must be made at least two semesters prior to the student's expected graduation date. A minimum of two semesters should be allowed for completion of all of the thesis requirements. It is expected that the Honors Thesis will conform to the University master's thesis format requirements (copies available from the Graduate School).

The student will be assigned a faculty advisor to guide and direct the research, based upon the student's area of interest. A grade is awarded for CSC 4999 after approval of the thesis by two faculty advisors.

An overall Wayne State University cumulative grade point average of at least 3.3.

A minimum of twelve credits in honors-designated course work, including CSC 4999, and the Honors Seminar listed above. For information about additional honors-designated course work available each semester, see the University Schedule of Classes (http://classschedule.wayne.edu) under 'Honors Courses,' or contact their departmental advisors,

Computer Science Minor

The Minor Program provides a background in computer science for students who are majoring in other fields of study in the College.

Code	Title	Credits
Mathematics		
MAT 2010	Calculus I	4
STA 2210	Probability and Statistics	4
or BE 2100	Basic Engineering III: Probability and Statistics in Engineering	
Computer Science		
CSC 1100	Problem Solving and Programming [1]	3
CSC 1101	Problem Solving and Programming Laboratory [1]	1
CSC 1500	Fundamental Structures in Computer Science [1]	3
CSC 1501	Fundamental Structures in Computer Science Lab [1]	1
CSC 2110	Computer Science I [1]	3
CSC 2111	Computer Science I Lab [1]	1
CSC 2200	Computer Science II [1]	3
CSC 2201	Computer Science II: Lab [1]	1
Two additional Computer Science courses numbered 3000 or above to complete the required eighteen CSC credits. [2]		2
Total Credits		26

1. A minimum grade of 'C' is required in these courses. For all other MAT, BE and CSC courses, a minimum grade of 'C-' is required.
2. excluding CSC 4990 and CSC 4995

Please note that the core courses include mandatory instructional labs. These laboratories must be taken concurrently with their corequisite lecture.

A minimum of twelve credits in computer science must be earned at Wayne State University.

Students may wish to modify the minor program to fit their special needs. For any changes or adjustments to the above course requirements, students should contact their Departmental undergraduate advisors for approval. Students declaring their minor should consult an advisor for a written assessment of current requirements.

Information Technology (B.S.)

This program prepares the student for a challenging workplace with an enhanced knowledge of business applications. The curriculum for the degree is designed to provide students with a solid foundation in computer and information systems and business administration.

Admission Requirements

Admission requirements for this program are satisfied by the general requirements for undergraduate admission (p. 22) to the University.

Academic Regulations

Academic Probation: A student is considered to be on academic probation whenever his or her cumulative grade point average, or his or her grade point average in the computer science program, falls below 2.0. A student may also be placed on probation whenever his or her academic performance is deemed unsatisfactory. If, at the end of the first semester on probation, the student's cumulative grade point average has not increased to at least 2.0, he or she will be excluded from the Department of Computer Science. If the student's cumulative g.p.a. reaches at least 2.0 by the end of the first semester after being placed on probation, he or she will be returned to regular status. Following exclusion from the Department of Computer Science, the privilege of registering in the Department will be withheld for at least one calendar year.

Exclusion: A student who has been refused the privilege of registering in the Department may request a reconsideration of his or her status by the Academic Standards Committee (ASC) after the one-year exclusionary period. He or she should not make the request, however, unless evidence can be provided of changes in academic preparation or circumstances that will substantially increase the likelihood of academic success. A formal written request for reconsideration must be presented to the Associate Dean for Academic Affairs. Students who plan to petition for readmission are encouraged to request a meeting with the ASC as early as possible during the exclusion period to discuss what changes may provide an opportunity for readmission. In no case is readmission to the Department of Computer Science guaranteed.

Repeated Courses and Substandard Grades: Students will be allowed up to a maximum of five repeated courses, one repeated course for a substandard grade. If a student must repeat a subsequent course in order to complete their degree, he or she will be excluded from the Department of Computer Science (i.e., students must complete a course within three attempts). Prerequisite math and science courses that do not satisfy degree requirements, but are required if students did not place into MAT 2010, are also counted towards exclusion from the Department. A substandard grade is defined as a grade lower than the minimum requirement (i.e., a grade of C-minus in CSC 1100/1101, or a WP/WF/WN).

Candidates must complete 120 credits in course work including satisfaction of the University General Education Requirements (p. 34), as well as the departmental major requirements cited below. All course work must be completed in accordance with the regulations of the University (p. 11) and the College of Engineering (p. 136) governing undergraduate scholarship and degrees.

Course Requirements

(Please note that the core courses include mandatory instructional labs. These laboratories must be taken concurrently with their corequisite lecture.)

Code	Title	Credits
MAT 2010	Calculus I	4
STA 2210	Probability and Statistics	4
or BE 2100	Basic Engineering III: Probability and Statistics in Engineering	
CSC 1100	Problem Solving and Programming	3
CSC 1101	Problem Solving and Programming Laboratory	1
CSC 1500	Fundamental Structures in Computer Science	3
CSC 1501	Fundamental Structures in Computer Science Lab	1
CSC 2110	Computer Science I	3
CSC 2111	Computer Science I Lab	1
CSC 2200	Computer Science II	3
CSC 2201	Computer Science II: Lab	1
CSC 3010	Ethics in Computer Science	3
CSC 3100	Computer Architecture and Organization	3
CSC 3101	Computer Architecture and Organization: Lab	1
CSC 3750	Introduction to Web Technology	3
CSC 4110	Software Engineering	3
CSC 4111	Software Engineering: Lab	1
CSC 4420	Computer Operating Systems	3
CSC 4421	Computer Operating Systems: Lab	1
CSC 4710	Introduction to Database Management Systems	3
or ISM 5994	Software Tools for Business Applications	
CSC 4996	Senior Project and Computer Ethics	3
CSC 4997	Senior Project Lab	1
CSC 5750	Principles of Web Technology	3
ECO 2020	Principles of Macroeconomics	4
ACC 3010	Introduction to Financial Accounting	3
FIN 3290	Business Finance	3
MGT 2530	Management of Organizational Behavior	3
MKT 2300	Marketing Management	3

A minimum of twenty-six credits in computer science must be earned at Wayne State University.

A minimum grade of C is required for the following respectively:

Code	Title	Credits
CSC 1100	Problem Solving and Programming	3
CSC 1101	Problem Solving and Programming Laboratory	1
CSC 1500	Fundamental Structures in Computer Science	3
CSC 1501	Fundamental Structures in Computer Science Lab	1
CSC 2110	Computer Science I	3
CSC 2111	Computer Science I Lab	1
CSC 2200	Computer Science II	3
CSC 2201	Computer Science II: Lab	1

A minimum grade of C- is required for all other CSC and MAT courses.

Prior to declaring their major, students should consult an advisor for a written assessment of the current requirements.

Electrical and Computer Engineering

Office: 3100 W. Engineering Building; 313-577-3920
Chairperson: Mohammed Ismail Elnaggar
http://engineering.wayne.edu/ece/

In the field of electrical and computer engineering, basic physical and mathematical principles are utilized to develop new devices, technologies, and techniques of constantly broadening application. Examples are the development of smaller, cheaper, and more powerful computers, microprocessors, and other data processors, stemming from advances in solid-state and integrated circuit technology, and their utilization in a growing range of system applications; the growing use of data communications and sophisticated communication networks; the use of lasers, and the development of fiber optic and integrated optical devices for various applications ranging from optical data processing to communication; development of sophisticated control techniques, smart sensors, and transducers for advanced automation and electric power systems; the application of electronics to health care and diagnostics (such as noninvasive measurements and ultrasound imaging); and energy conversion devices.

The areas of study available in the Department include: solid-state devices, lasers, smart sensors, information sciences, digital circuits, computer engineering, integrated and active circuits, nanotechnology, biomedical electronics and systems, image processing, neural networks, and modern control theory.

Programs of both experimental and theoretical study are available in all these areas, as well as other interdisciplinary programs through the Electrical and Computer Engineering Department.

A more detailed exposition of the Department's research activities is available on our website. Senior students are encouraged to participate in research activities by means of independent study projects and student assistantships. Graduate students normally participate in the research program as graduate teaching assistants and research assistants.

The College of Engineering laboratory building contains seven instructional laboratories for experimental work in control systems, analog circuits, digital systems, microcomputers, instrumentation, optics, and communication systems; these laboratories are an integral part of the instructional program. In addition, the Departmental faculty have eight research laboratories dealing with computer systems, multi-media systems, semiconductor device materials including a clean-room facility, opto-electronics, computation and neural networks, image processing, nanotechnology, telematics, and embedded systems. Computer facilities are available for student use; the College Computer Center as well as the University Computing Services Center are available to all students through individual student accounts.

- Electrical Engineering (B.S.) (p. 156)
- Control Systems (Certificate) (p. 155)

Control Systems (Certificate)

Control systems underlie the majority of any engineering system with an electronic or computer-based function -- from manufacturing procedures to automotive systems and consumer electronics. An enhanced knowledge of the design, programming, construction, analysis, and verification of control systems provides students with extensive tools applicable in many, diverse engineering fields. This certificate program provides students with a background in electrical or computer engineering with additional education, and documentation of qualifications, in this area.

Admission Requirements: Students must be concurrently enrolled in or have completed an undergraduate degree (B.S.) in engineering with a minimum of a 2.5 cumulative major g.p.a. Students currently pursuing a B.S. in engineering must have completed at least sixty credits of undergraduate coursework and be enrolled in the professional engineering program of their discipline. Students must document satisfactory completion of all prerequisite courses (or their equivalent) with a grade of 'C-minus' or higher.

Prerequisite Background

Code	Title	Credits
ECE 3300	Introduction to Electrical Circuits	4
ECE 3330	Electrical Circuits II	4
MAT 2010	Calculus I	4
MAT 2020	Calculus II	4
MAT 2030	Calculus III	4
PHY 2185	University Physics for Engineers II	4
Total Credits		24

CERTIFICATE REQUIREMENTS: Students interested in earning an Undergraduate Certificate in Control Systems must complete the following set of four courses (16 credits) as outlined in the following curriculum:

Code	Title	Credits
ECE 4330	Linear Systems and Signals	4
ECE 4470	Control Systems I	4
ECE 5440	Computer-Controlled Systems	4
ECE 5470	Control Systems II	4
Total Credits		16

Program Standards: All students must earn at least a 'C-minus' in each of the courses to be applied towards the Undergraduate Certificate and complete the coursework (16 credits) with an overall g.p.a. of at least 2.0. Students concurrently enrolled in an engineering undergraduate program will be governed by overall policy on substandard grades for students pursuing a B.S. degree (one substandard grade allowed for every twenty-four credits completed at WSU). Students who have completed a B.S. degree and pursue only the Undergraduate Certificate will be allowed one substandard grade, with a subsequent successful repeat of the course, during completion of this academic program.

Electrical Engineering (B.S.)

In addition to the Undergraduate Program Goals for the College of Engineering, the specific objectives of the Bachelor of Science program in Electrical Engineering include the following:

1. Graduates will understand relevant engineering and scientific principles underlying electrical and computer technologies, and have the capability to apply theoretical, computational, and experimental methods to solve real engineering problems.
2. Graduates will have strong oral and written communication skills to interact with fellow engineers and non-technical personnel in a team environment.
3. Graduates will have computer skills for effective use in engineering. They will possess a working knowledge of modern programming languages, as well as operating systems and software packages for design, analysis, and simulation.
4. Graduates will be able to work hands-on in laboratories with state-of-the-art facilities and equipment to accomplish assigned tasks and projects.
5. Graduates will be aware of the societal responsibility of engineers and the essential nature of high ethical standards of professional behavior.
6. Graduates will possess effective engineering design capability and an awareness of cost, safety, sustainability, accessibility, and other associated constraints in engineering design.

Admission Requirements

For admission to the Bachelor of Science program, students must satisfy the admission criteria of the Division of Engineering, College of Engineering (p. 139).

Candidates for the Bachelor of Science degree must complete **125 credits of coursework**, including the University General Education (p. 34) requirements. All course work must be completed in accordance with the academic procedures of the University (p. 9) and the College of Engineering (p. 136) governing undergraduate scholarship and degrees. The degree requirements shown in the curriculum below are in effect as of the publication date of this bulletin. However, students should consult an academic advisor for verification of current requirements.

In the freshman and sophomore years, the student acquires a foundation in the principles of science and mathematics required for the study of engineering. In addition, general education studies are provided to ensure a well-rounded education. Basic concepts of electrical circuits, electronics, computers and electromagnetic fields are studied after prerequisite mathematics and science backgrounds are mastered. In the senior year, a choice of electrical and computer engineering electives permits the student to specialize in one or more areas.

Electrical Engineering Curriculum

First Year		
First Semester		**Credits**
BE 1200	Basic Engineering I: Design in Engineering	3
CHM 1225	General Chemistry I for Engineers	3
CHM 1230	General Chemistry I Laboratory	1
ENG 1020	Introductory College Writing	3
MAT 2010	Calculus I	4
Any (WE) Wayne Experience		1
	Credits	15
Second Semester		
CSC 2000	Introduction to C++ Programmin Language	3
ECO 2010 or ECO 2020	Principles of Microeconomics or Principles of Macroeconomics	4
MAT 2020	Calculus II	4
PHY 2175	University Physics for Engineers I (*) See Note at Bottom of Curriculum	4

	Credits	15
Second Year		
First Semester		
ECE 2610	Digital Logic Design	4
MAT 2030	Calculus III	4
PHY 2185	University Physics for Engineers II (*) See Note at Bottom of Curriculum	4
Any (CIV) Civic Literacy		3
	Credits	15
Second Semester		
BE 2100	Basic Engineering III: Probability and Statistics in Engineering	3
ECE 3040	Numerical Methods for Engineers	3
ECE 3300	Introduction to Electrical Circuits	4
MAT 2150	Differential Equations and Matrix Algebra	4
	Credits	14
Third Year		
First Semester		
ECE 3330	Electrical Circuits II	4
ECE 3570	Electronics	4
ECE 3620	Introduction to Microcompu	4
ENG 3050	Technical Communication I: Reports	3
	Credits	15
Second Semester		
PHI 1120	Professional Ethics	3
ECE 4330	Linear Systems and Signals	4
ECE 4570	Fundamenta of Microelectro Devices	4
Any (GL) Course - Global Learning		3
Electrical, Computer or Biomedical Electronics and Systems Option Course		4
	Credits	18
Fourth Year		
First Semester		
Electrical, Computer or Biomedical Electronics and Systems Option Courses		8
ECE 4700	Introduction to Communication Theory	4
ECE 4340 or ECE 4331	Microcompu Based Instrumenta Laboratory or Systems and Signals Laboratc	2
ENG 3060	Technical Communication II: Presentations	3
	Credits	17
Second Semester		
Any (DEI) Course - Diversity, Equity & Inclusion		3
ECE 4600	Capstone Design I	4
Any ECE Electives		8
	Credits	15
	Total Credits	124

*Students are required to take either PHY 2171 along with PHY 2175 **OR** or take PHY 2181 along with PHY 2185. The Electrical Engineering department recommends taking PHY 2181. **This makes the degree total 125 credits.**

Biomedical Electronics and Systems Option

Code	Title	Credits
ECE 5100	Quantitative Physiology	4
ECE 6180	Biomedical Instrumentation	4
Select one of the following:		4
ECE 5690	Introduction to Digital Image Processing	
ECE 5575	Introduction to Micro and Nano Electro Mechanical Systems (MEMS/NEMS)	
ECE 5425	Robotic Systems I	
Total Credits		12

Computer Option

Code	Title	Credits
ECE 4050	Algorithms and Data Structures	4
ECE 4680	Computer Architecture	4
ECE 5650	Computer Networking and Network Programming	4
Total Credits		12

Electrical Option

Code	Title	Credits
ECE 4470	Control Systems I	4
ECE 4800	Electromagnetic Fields and Waves I	4
ECE Elective		4
Total Credits		12

TOTAL PROGRAM CREDITS: 125

*Students are required to take either PHY 2171 along with PHY 2175 **OR** or take PHY 2181 along with PHY 2185. The Electrical Engineering department recommends taking PHY 2181. This make the degree total 125 credits.

Substitution of a course not on this list requires approval of the department chairperson or delegated faculty advisor.

Course Material Fee
A course material fee is charged for laboratory courses using expendable materials.

Industrial and Systems Engineering

Office: 2143 Manufacturing Engineering Building, 4815 Fourth St.; 313-577-3821
Chairperson: Leslie Monplaisir
http://www.ise.wayne.edu

The industrial engineer is a broadly-trained integration engineer, concerned with enabling complex systems to function effectively. Managing the inventory of a production facility, for example, involves issues of production and stocking policy, manufacturing equipment, human resources, customer demand, and supplier relationships. The industrial engineer must understand the interaction of the components of a system, and coordinate the flow of materials and information to effectively manage the operation. The industrial engineer plays an important role in defining information needs and developing strategies for decision-making based on incomplete knowledge. However, the skills of the industrial engineer have much greater application than to traditional production environments. In a growing service sector of the economy including health care delivery, public safety, air transportation, and banking, for example, issues of resource management, scheduling, quality of service, and systems design are important.

Traditionally, the manufacturing engineer was responsible for developing the process capability to realize the output of design engineering. Today the boundary between design and manufacturing engineering is becoming blurred; both groups work together in teams to assure the soundness of design and production capability. The manufacturing engineer must have an understanding of the design process, but the manufacturing engineer's special expertise is the knowledge of the production process.

Today's production is computer-based and provides flexibility through computer control. The manufacturing engineer is responsible for designing and implementing the cells and production lines which become the basic units of manufacturing. Increasingly, such production units are becoming parts of an integrated factory system, not simply islands of automation. The manufacturing engineer must understand the multi-layered control architecture of the integrated factory, and the computer-based technologies which enable it.

The Department maintains laboratories in systems simulation, computer-aided manufacturing, human systems, and concurrent engineering design.

- Industrial Engineering (B.S.) (p. 158)

Industrial Engineering (B.S.)

Program Mission: The mission of the undergraduate program in Industrial Engineering is to educate our students for leadership positions in a broad spectrum of employment including: manufacturing, supply chain management and logistics, health care, banking, information management, and related disciplines.

Program Vision: The Department of Industrial and Systems Engineering offers the B.S. in Industrial Engineering to prepare students for a broad range of employment opportunities that include operations management, manufacturing, and healthcare. Our vision is to produce graduates who will lead their organizations to competitive advantage by applying the tools and techniques of industrial engineering. We believe that exposing students to diverse industries in our educational program will enhance their professional skills.

Program Educational Objectives: To support the vision of the program we have defined three high-level objectives we expect students to achieve three to five years following graduation:

Building on skills developed in the academic program, and extended by experience and personal self-improvement, the graduates of our program have the ability to:

1. Apply the tools and techniques of industrial engineering to make decisions which add value to their organization,
2. Identify opportunities and formulate solutions which integrate technological and human systems,
3. Provide leadership as a member of high performance teams.

Admission Requirements

For admission to the Bachelor of Science program, students must satisfy the admission criteria of the Division of Engineering, College of Engineering (p. 139).

Candidates for the Bachelor of Science degree must complete 121 credits of coursework, including the University General Education (p. 34) requirements. All course work must be completed in accordance with the academic procedures of the University (p. 9) and the College of Engineering (p. 136) governing undergraduate scholarship and degrees. Non-engineering courses, cited below by subject rather than by individual course numbers, indicate courses to be selected in fulfillment of University General Education Requirements. The degree requirements shown in the curriculum below are in effect as of the publication date of this bulletin. However, students should consult an academic advisor for verification of current requirements.

The Bachelor of Science degree programs are built on a strong core of common courses. In the junior and senior years, students must choose a concentration leading to the industrial engineering degree. These options are described below.

The directed elective must be approved by the program director or undergraduate advisor. A list of courses appropriate for the directed elective is available from the Department.

Engineering Breadth Options: In the following curricula engineering Breadth Options are courses selected from an approved list of those deemed most suitable as contributing to the industrial engineering degree program. In the sophomore year these options are limited to courses numbered below 3000 for all students who have NOT completed their preprofessional coursework.

The Engineering Design Project course sequence (IE 4800 and IE 4880) is a capstone endeavor and is intended to build on and integrate the knowledge that the student has accumulated throughout the undergraduate program. It is intended to be taken in the student's last academic year, within forty credits of graduation. This sequence is a year-long undertaking. Students enroll in IE 4800 (two credits) in their last Fall semester, and spend the term building their teamwork skills and selecting and planning their project. Practical, professionally-relevant projects are usually selected in concert with the Department's industrial partners. In the Winter semester, students enroll in IE 4880 (2 credits) and engage in an intensive effort to bring their industrial engineering skills and knowledge to bear on the problem. Students who intend to take the capstone sequence should first consult their academic advisor.

Project Requirements: In order to qualify to take IE 4800, students must be in the last year of his/her program (within forty credits of graduating). To enroll in IE 4800, the student must have taken and passed

IE 3120, IE 4250, IE 4850, and should have taken and passed or be taking at least two of the IE 4420, IE 4330, IE 4560 in the same semester of IE 4800.

In order to register for IE 4880, students must have taken IE 4800 in the immediately previous term they must be finished with all eight IE core courses by the end of the semester in which they take IE 4880. Students are encouraged to meet with the industrial engineering program academic advisor for a plan of work to ensure they meet these requirements.

First Year

First Semester		**Credits**
BE 1200	Basic Engineering I: Design in Engineering	3
ENG 1020	Introductory College Writing	3
CHM 1225	General Chemistry I for Engineers	3
CHM 1230	General Chemistry I Laboratory	1
MAT 2010	Calculus I	4
	Credits	14
Second Semester		
BE 1300	Basic Engineering II: Materials Science for Engineering Applications	3
BE 1310	Materials Science for Engineering: Laboratory	1
MAT 2020	Calculus II	4
PHY 2175	University Physics for Engineers I	4
PHI 1120	Professional Ethics	3
	Credits	15

Second Year

First Semester		
BE 2100	Basic Engineering III: Probability and Statistics in Engineering	3
MAT 2030	Calculus III	4
PHY 2185	University Physics for Engineers II	4
Engineering Breadth Option		4
	Credits	15
Second Semester		
MAT 2150	Differential Equations and Matrix Algebra	4
BE 1500	Introduction to Programming and Computation for Engineers	3
ECO 2010	Principles of Microeconor	4
Diversity, Equity and Inclusion (DEI) course		3
IE Technical Elective		3
	Credits	17

Third Year

First Semester		
ENG 3050	Technical Communicat I: Reports	3
IE 3120	Work Design	3
IE 4850	Engineering Economy	3
Global Learning (GL) course		3
IE Technical Elective		3
	Credits	15
Second Semester		
ENG 3060	Technical Communicat II: Presentatior	3
IE 4420	Systems Simulation	3
IE 4250	Engineering Data Analysis	3
Engineering Breadth Option		4
Civic Literacy (CIV) course		3
	Credits	16

Fourth Year

First Semester		
IE 4260	Principles of Quality Control	3
IE 4560	Operations Research	3
IE 4800	Engineering Design I: Project Managemen	2
Directed Elective		3
IE Technical Elective		3
	Credits	14
Second Semester		
IE 4310	Production Control	3
IE 4330	Facilities Design	3
IE 4880	Engineering Design II	2
IE Technical Elective		4
IE Technical Elective		3
	Credits	15
	Total Credits	121

Mechanical Engineering

Office: 2100 W. Engineering Building; 313-577-3843; Fax: 313-577-8789
Chairperson: Nabil G. Chalhoub; ab9714@wayne.edu
Director of Undergraduate Studies: Jerry C. Ku; aa1898@wayne.edu

Academic Undergraduate Advisor: Keith L. Wadley; ab8541@wayne.edu
http://www.eng.wayne.edu/ME/

The opportunities and challenges in the field of mechanical engineering are many and diverse. The broad variety of career possibilities includes research and development, design analysis and synthesis, manufacturing and production engineering, testing, sales engineering, maintenance and administration. The challenge of a mechanical engineer may lie in the perfection of a device that will be duplicated a million-fold or in the control optimization of a single complex system of unique design. To prepare undergraduate students for these opportunities, the Wayne State University Mechanical Engineering curriculum is designed to give a basic core education in the humanities, mathematics, natural sciences, basic applied sciences, engineering fundamentals, and to provide advanced electives in many applied fields.

Fields of departmental expertise include such important areas as biomechanics, energy conversion, combustion engines, emissions controls, structural analysis, automatic controls, robotics, thermodynamics, continuum mechanics, fluid dynamics, vibrations, heat transfer, mechanisms, acoustics and noise control, design, machine tool design, manufacturing, laser diagnostics, and mechanics of composite materials. Research and teaching is carried out in all of these areas.

- Mechanical Engineering (B.S.) (p. 160)

Mechanical Engineering (B.S.)

The Bachelor of Science in Mechanical Engineering is accredited by the Accreditation Board for Engineering and Technology.

Program Goals

Mechanical engineering B.S. graduates will be able to apply basic engineering principles to identify and solve problems, and to design, specify the manufacturing of, and evaluate the performance of mechanical systems and processes.

Program Educational Objectives

Program Educational Objectives are broad in scope and describe the expected accomplishments of our graduates during the first few years after graduation, while Student Outcomes are narrower and describe what our students are expected to know and be able to do by the time of graduation. The objectives of the undergraduate program in Mechanical Engineering at Wayne State University are to provide the education and training that will enable its graduates to:

1. successfully pursue intermediate level engineering positions or additional degrees;
2. demonstrate technical competency in applying broad, fundamental-based knowledge and up-to-date skills to perform professional work in mechanical engineering related disciplines;
3. demonstrate competency in applying comprehensive design methodology pertaining to mechanical engineering, incorporating the use of the economic, environmental, and social impact of design;
4. engage in professional societies, and to always apply best practices in professional ethics; and
5. be committed to life-long learning activities through self-reliance, creativity and leadership.

ABET Student Outcomes (as revised on September 18, 2009)

It is expected that by the time of graduation, our B.S.M.E. students will have:

1. an ability to apply knowledge of mathematics, science, and engineering
2. an ability to design and conduct experiments, as well as to analyze and interpret data
3. an ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability
4. an ability to function on multidisciplinary teams
5. an ability to identify, formulate, and solve engineering problems
6. an understanding of professional and ethical responsibility
7. an ability to communicate effectively
8. the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context
9. a recognition of the need for, and an ability to engage in life-long learning
10. a knowledge of contemporary issues
11. an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.

In support of these educational objectives, faculty members will seek outstanding levels of achievement in their research and engineering practices. To further foster professionalism, the Department encourages students to be active participants in ASME, Pi Tau Sigma, Tau Beta Pi, SAE and other student professional organizations.

Admission Requirements

For admission to the Bachelor of Science program, students must satisfy the admission criteria of the Division of Engineering, College of Engineering (p. 139). The Department has an Academic Advisor and a Director of Undergraduate Studies. The former is responsible for assisting students with course selections and maintaining academic progress, and the latter is responsible for enforcing Departmental academic policy. Students are encouraged to meet with the Academic Advisor once every semester, for up-to-date feedback on their academic progress and a review of course plans for the next semester or two. The student and advisor together plan a complete program of study, including electives, which meet Departmental requirements and the interests of the individual student.

Candidates for the Bachelor of Science degree must complete 122 credits of coursework, including the University General Education (p. 34) requirements. All course work must be completed in accordance with the academic procedures of the University (p. 9) and the College of Engineering (p. 136) governing undergraduate scholarship and degrees.

Evening courses and cooperative programs allow professionals working in local industry to pursue an undergraduate degree while continuing employment. The degree requirements shown in the curriculum below are in effect as of the publication date of this bulletin; however, students should consult an academic advisor for verification of current requirements.

Mechanical Engineering Curriculum

First Year		
First Semester		**Credits**
BE 1200	Basic Engineering I: Design in Engineering	3

CHM 1225	General Chemistry I for Engineers (NSI)	3
CHM 1230	General Chemistry I Laboratory (NSI)	1
ENG 1020	Introductory College Writing (BC)	3
MAT 2010	Calculus I (QE)	4
	Credits	14

Second Semester

BE 1300	Basic Engineering II: Materials Science for Engineering Applications	3
BE 1310	Materials Science for Engineering: Laboratory	1
MAT 2020	Calculus II	4
PHY 2175	University Physics for Engineers I (NSI)	4
BE 1500	Introduction to Programming and Computation for Engineers	3
	Credits	15

Second Year

First Semester

MAT 2030	Calculus III	4
ME 2410	Statics	3
BE 2100	Basic Engineering III: Probability and Statistics in Engineering	3
PHY 2185	University Physics for Engineers II	4
	Credits	14

Second Semester

MAT 2150	Differential Equations and Matrix Algebra	4
ME 2500	Numerical Methods Using MATLAB	2
ME 2420	Elementary Mechanics of Materials	3
ME 2200	Thermodynamics	3
Any Civic Literacy (CIV) course		3
	Credits	15

Third Year

First Semester

ECE 3300	Introduction to Electrical Circuits	4
ME 3300	Fluid Mechanics: Theory and Laboratory	4
ENG 3050	Technical Communicat I: Reports (IC)	3
ME 3400	Dynamics	3
ME 3450	Manufacturi Processes I	3
	Credits	17

Second Semester

ME 4210	Heat Transfer: Theory and Laboratory	4
ME 4150	Design of Machine Elements	4
ME 4410	Vibrations: Theory and Laboratory	4
PHI 1120	Professional Ethics (CI)	3
ENG 3060	Technical Communicat II: Presentatior (OC)	3
	Credits	18

Fourth Year

First Semester

ME 4300 or ME 5330	Thermal Fluid Systems Design ((ME 5330 AGRADE)) [1] or Advance Thermal Fluid System Design	4
ME 4420	Dynamic Modeling and Control of Engineering System	4
ME Technical Elective (ME 5XXX)		4
Any Diversity, Equity, and Inclusion (DEI) course		3
	Credits	15

Second Semester

ME 4500 or ME 5500	Mechanical Engineering Design II (ME 5500 AGRADE) [2] or Advanced Engineering Design	4
ME Technical Elective (ME 5XXX)		4
Any Social Inquiry (SI) course		3

Any Global Learning (GL) course		3
	Credits	14
	Total Credits	122

1 may not be taken concurrently with ME 4500 or ME 5500

2 May not be taken concurrently with ME 4300 or ME 5330.

Coherent Technical Electives

Two technical electives must be chosen from among the 5000-level courses offered by the Mechanical Engineering Department. Coherent Technical Electives are as follows:

Code	Title	Credits
Vibrations and Acoustics		
ME 5410	Vibrations II	4
ME 5425	Analysis of Vibration Movements and Instrumentation	4
ME 5440	Industrial Noise Control	4
ME 5460	Fundamentals in Acoustics and Noise Control	4
Control and Dynamics		
ME 5115	Fundamentals of Electric-drive Vehicle Modeling	4
ME 5400	Dynamics II	4
ME 6550	Modeling and Control of Dynamic Systems	4
Biomedical Engineering		
ME 5100/ BME 5010/ CHE 5100/ECE/IE 5100	Quantitative Physiology	4
ME 5160/ BME 5210	Musculoskeletal Biomechanics	4
ME 5170	Design of Human Rehabilitation Systems	4
ME 5180/ BME 5370	Introduction to Biomaterials	4
ME 6180/ BME 6480/ ECE 6180/IE 6180	Biomedical Instrumentation	4
Solid Mechanics and Design		
ME 5040	Finite Element Methods I	4
ME 5620	Fracture Mechanics in Engineering Design	4
ME 5700	Fundamentals of Mechanics	4
ME 5720	Mechanics of Composite Materials	4
Design and Manufacturing		
ME 5453	Automotive Manufacturing Systems and Processes	4
ME 5580	Computer-Aided Mechanical Design	4
Thermal/Fluid Science		
ME 5110/ EVE 5130/ AET 5110/CHE 5110	Fundamental Fuel Cell Systems	4
ME 5115/ EVE 5110	Fundamentals of Electric-drive Vehicle Modeling	4
ME/AET 5120	Fundamentals of Alternative Energy Technology	4
ME 5210		4
ME 5215/ EVE 5120/ AET 5310/ CHE 5120	Fundamentals of Battery Systems for Electric and Hybrid Vehicles	4
ME 5300	Intermediate Fluid Mechanics	4
ME 5800	Combustion Engines	4
ME 5810	Combustion and Emissions	4
ME 5820	Thermal Environmental Engineering	4

In addition, students may choose to do directed study and research in an area of mutual interest to the student and a faculty member.

Engineering Technology Division

Office: 4855 Fourth Street; 313-577-0800
Chairperson: Ece Yaprak
http://www.engineering.wayne.edu/et/

The Division of Engineering Technology was founded in 1973 and offers both undergraduate (upper-division: junior and senior level) and graduate programs. It stresses the application of current technology to typical industrial problems. Entering students in the upper division program are assumed to have a background equivalent to an associate degree in engineering technology or in a related discipline. The program complements a community college education by providing more application-oriented analytical techniques. In the curriculum a close relationship is maintained between the theoretical principles taught in the classroom and their applications in corresponding laboratories.

Engineering technology is a profession closely related to engineering and deals with the application of knowledge and skill to industrial processes, production, and management. Technologists are organizers of people, materials, and equipment for the effective planning, construction and maintenance of technical facilities and operations. They are responsible for work requiring technical and practical knowledge. They can apply their abilities in using technical equipment, selling technical products, serving as manufacturers' technical representatives, or supervising varied construction projects and manufacturing processes. They work with engineers in many aspects of project development, production planning, and final testing of industrial, military, or consumer products. Their talents are used in virtually every activity where technical expertise is required. They may be involved with electronic and mechanical instruments, experimental equipment, computing devices, tool design, manufacturing, or drafting.

Technical skills in the use of electronic equipment, machinery, tools, and drafting instruments are characteristic of this type of work. Thus, engineering technology students can find challenging employment in business and industry. Graduates of Wayne State's Engineering Technology program have been employed in areas such as manufacturing engineering, engineering production, marketing, maintenance, quality control, product testing, field engineering, consulting engineering, design, and technical supervision. Baccalaureate engineering technology graduates are often called technologists to distinguish them from baccalaureate graduates of engineering programs. However, the National Bureau of Labor Statistics does not have a category called 'technologist,' and consequently, many industrial job titles show little distinction between technologists and engineers. Graduates of Engineering Technology and Engineering programs complement each other in their skills and interests, and together with technicians and scientists, they form a technological team which has been able to produce an ever-increasing rate of technological advancement.

Academic Regulations: Division of Engineering Technology

For complete information regarding academic rules and regulations of the University, students should consult the Academic Regulations

(p. 11) section of this bulletin. The following additions and amendments pertain to the Division of Engineering Technology.

'AGRADE' Program (Accelerated Graduate Enrollment)

The College of Engineering allows academically superior undergraduate seniors to enroll simultaneously in undergraduate and graduate programs and apply a maximum of sixteen credits toward both an undergraduate and graduate degree in the student's major field. Students who elect the 'AGRADE' Program may expect to complete the bachelor's and master's degrees in one additional year of full-time study.

To be eligible, applicants must have completed a minimum of ninety credits of course work applied towards the engineering technology degree and be accepted in the professional program of their major. The minimum grade point averages for acceptance into the program are a 3.4 g.p.a. in engineering and not less than a 3.6 g.p.a. in their department of specialization, as computed by the rules of the Division of Engineering Technology. See the departmental advisor for further details.

Student Conduct

Each student is subject to official regulations governing student activities and student behavior. Furthermore, it is the responsibility of each student to adhere to the principles of academic integrity. Academic integrity means that a student is honest with him/herself, fellow students, instructors, and the University in matters concerning his or her educational endeavors. Thus, a student should not falsely claim the work of another as his/her own, or misrepresent him/herself so that the measures of his/her academic performance do not reflect his/her own work or personal knowledge.

If there are reasonable grounds to believe that a student has disregarded the regulations or student responsibilities, he or she may be disciplined. Such discipline may include failure in the course, suspension or dismissal, but no dismissal will be directed without reasonable opportunity for an appropriate hearing.

Probation Policy

A student is considered to be on probation whenever his/her cumulative grade point average (g.p.a.) falls below 2.0. A student may also be placed on probation whenever his/her academic performance is deemed unsatisfactory. When placed on probation, the student is required to meet with the Division Head or the Academic Standards Committee of the Division of Engineering Technology, to remove an academic hold on his/her registration. While on probation, a student may not represent the Division of Engineering Technology in student activities. The Academic Standards Committee of the Division formulates the regulations for probationary students and hears requests for exceptions.

A student on probation is expected to bring up his/her grade point average promptly. If, at the end of the first semester on probation, the student's cumulative grade point average has not increased to at least 2.0, he/she will be excluded from the Division of Engineering Technology for at least one calendar year. Course work taken at any institution during the period of exclusion may not be considered for transfer toward an engineering technology degree.

For part-time students, a semester will be considered to consist of twelve consecutive credits. If a student's cumulative g.p.a. reaches at least 2.0. by the end of the first semester after being placed on probation, he/she will be returned to regular status. Multiple occurrence of probation will result in the student's exclusion from the Division of Engineering Technology.

A student may be refused the privilege of registering in the Division if, at any time, his/her grade point average falls below 2.0. A student may also be refused the privilege of registering in the Division for irresponsible attendance and performance in class, regardless of any probationary status.

A student who has been refused registration may request that the Division Head or Academic Standards Committee reconsider his/her status. Such request should only be made when evidence of extenuating circumstances can be provided

Division of Engineering Technology Rules for Calculating Grade Point Average

The Division of Engineering Technology computes Division and College grade point averages using rules that differ from those used to compute the cumulative grade point average on the official University transcript: the College g.p.a. is calculated based on all engineering and technical courses, as well as required English courses. The Division g.p.a. includes all courses taken within the Division including courses bearing the subject codes of: CMT, ET, EET, MCT, MIT, ETT.

For students admitted to the College of Engineering for the Winter 2004 semester or later, repeated courses will not be included in the grade point average calculations (following standard University regulations). The new grade will replace the old grade in the g.p.a. calculation, but only a maximum of five repeated courses will be allowed.

For students admitted to the College of Engineering prior to Winter 2004, the inclusion of repeated courses in the grade point calculation follows different rules. When a course is repeated, the new grade will replace the previous grade unless the student exceeds the maximum number of repeats: one repeat for each thirty-four credits completed at Wayne State University. After the maximum number of repeats is exceeded, both grades are used in computing the student's grade point average.

Dean's List of Honor Students

A student who achieves a semester grade point average of 3.5 or more, based on a program of at least twelve credits, is notified by the Dean of citation for distinguished scholarship and his/her name is included on the Dean's List of Honor Students.

Substandard Performance

A minimum grade of C- is required for all courses. A course in which a grade below C- has been earned can not be subsequently passed by special examination. When repeating a course, failure for the third time to pass it with a grade satisfactory to the Division constitutes grounds for denying a student further registration in the Division of Engineering Technology.

Technology Transfer Credit

University policy allows a maximum of sixty-four semester credits to be transferred from community colleges to Wayne State. In some cases, students following University-approved articulation agreements with community colleges are able to exceed the maximum of sixty-four credits; however, a minimum of thirty semester credits must be earned from Wayne State, and at least twenty-four of those credits must be earned in Division of Engineering Technology courses. Each Engineering Technology degree program specifies lower division technical courses that may be part of the sixty-four credits transferred to Wayne State. These are listed in *Requirements* tab of each degree program under the heading, *Lower Division Technical Transfer Credits*. For evaluation of courses submitted to satisfy this requirement, students should consult an Engineering Technology advisor.

Changes of Election and Withdrawal

In addition to the University policies regarding changes of program and withdrawal from courses (p. 48), the following additions and amendments apply to the Division of Engineering Technology:

Registration and Adding Courses

A student may register for courses through the last day of the second week of classes for fifteen-week courses. A registered student may add a course through the last day of the second week of classes by submitting a completed Drop/Add form. Students are not permitted to add courses after the first week of the term without instructor and departmental permission.

A student may not change from one section of a course to another section of the same course after the fourth week of classes. Drop/Add forms will be valid for ten calendar days from the date of the earliest signature of approval. Once a student is admitted to Wayne State University, he/she does not have to go through the admissions procedure again. If a student does not register for two or more terms, he/she must first have his/her status upgraded at the University Records Office.

Withdrawals

Courses from which a student withdraws, such that a mark of WP, WF, or WN appears on the transcript, are counted as an attempt at the course and are taken into account when assessing the allowed number of repeats. If a student feels that circumstances beyond their control (e.g., family emergency, change of work schedule) justify the withdrawal, a written petition may be submitted to the Associate Dean for Academic Affairs before the end of the semester in which the course was taken. If the petition is approved, it will be noted in the student's advising record that the course will not be counted towards Engineering repeat allowances.

Graduation

Students must apply for graduation at the beginning of the semester in which they plan on completing their degree requirements. At graduation, the University requires a minimum 2.0 grade point average in the total residence credit. Additionally, Engineering Technology programs require a minimum 2.0 grade point average in the Division. The student's total g.p.a., as well as division grade point average, is calculated using the Division of Engineering Technology rules as described above.

Graduates with a minimum of thirty credits in residence at Wayne State University and a grade point average of at least 3.0 may qualify for a special diploma under the following conditions:

Summa Cum Laude: Student must have a grade point average in the 95th percentile of the College of Engineering graduating class.

Magna Cum Laude: Student must have a grade point average in the 90th percentile of the graduating class.

Cum Laude: Student must have a grade point average in the 80th percentile of the graduating class.

Commencement

Each year, commencement exercises are held in both May and December. College Order of the Engineer and Professional Order of Engineering Technology ceremonies will be held in May to induct graduates into these organizations. Students who are graduating in December are eligible to participate in the induction ceremony for the following May.

- Computer Technology (B.S.C.T.) (p. 165)
- Construction Management (B.S.C.M.) (p. 166)
- Electrical/Electronic Engineering Technology (B.S.E.E.T.) (p. 168)
- Electromechanical Engineering Technology (B.S.E.M.T.) (p. 169)
- Electric Transportation Technology (B.S.E.T.T.) (p. 167)
- Mechanical Engineering Technology (B.S.M.C.T.) (p. 171)
- Manufacturing Engineering Technology (B.S.M.F.T.) (p. 170)
- Energy Storage Systems, Advanced (Certificate) (p. 164)

Advanced Energy Storage Systems (Certificate)

The alternative energy economy relies heavily on advanced energy storage systems to prolong the life of energy generated by solar and wind systems. The changing nature of energy resources will increase the need for energy storage in both supply and demand. Energy storage facilities hold a key position in energy supply systems; the benefits of electric energy storage include increasing grid reliability, reducing system transmission congestion, helping manage load, and making renewable electricity sources more suitable as base load providers. Energy storage technologies are also critical to the future of the automotive industry, which is innovating rapidly around vehicle electrification.

The Undergraduate Certificate Program in Advanced Energy Storage Systems provides technically-oriented education that emphasizes the application of advanced technology to solve problems, design and develop products, and improve processes, procedures, equipment, and facilities. This program aims to prepare students for application-oriented careers in Advanced Energy Storage System industry, including storage in automotive, consumer, nuclear and green industries; advanced battery systems and hydrogen electro-chemical cells; mechanical energy storage; thermal and chemical storage; inductive storage based on superconducting magnetic field; and, social and economical aspects of storage technology.

Admission Requirements

Beginning Fall 2017, an admissions moratorium is in effect for this program.

Students must be concurrently enrolled in or have completed an undergraduate degree (B.S.) in Engineering, Engineering Technology, Chemistry, or Physics. Students who are currently pursuing a B.S. must have completed at least sixty credits of undergraduate engineering, engineering technology, chemistry, or physics coursework with a minimum of a 2.0 cumulative major g.p.a. Students must document satisfactory completion of all prerequisite courses (or their equivalent) with a grade of C- or higher.

Students interested in earning an Undergraduate Certificate in Advanced Energy Storage Systems must complete five courses:

Code	Title	Credits
ETT 4150	Fundamentals of Hybrid and Electric Vehicles	3
ETT 4310	Energy Storage Systems for Hybrid and Electric Vehicles	3
ETT 4410	Introduction to Advanced Energy Storage	3
MCT 4150	Applied Thermodynamics	3
MCT 5210	Energy Sources and Conversion	3
Total Credits		15

Program Standards

All students must earn at least a C grade in each of the courses to be applied towards the Certificate and complete the coursework with an overall g.p.a. of at least 2.0. Students concurrently enrolled in an engineering or engineering technology undergraduate program will be governed by overall policy on substandard grades for students pursuing a

B.S. degree (one substandard grade allowed for every twenty-four credits completed at WSU). Students who have completed a B.S. degree and are pursuing only the Certificate will be allowed one substandard grade, with a subsequent successful repeat of the course, during completion of this academic program.

Computer Technology (B.S.C.T.)

The Bachelor of Science in Computer Technology (B.S.C.T.) prepares students for professional work relating advancements in basic science to practical computer applications. This degree is an interdisciplinary program of study which provides a combination of professional courses in computer science, information systems, electronics, and information technology. The particular strengths of the program include:

- applied hands-on curriculum;
- hardware oriented laboratory experiences;
- scientific advancement merged with applications; and
- the various skills and knowledge required for the enhanced job market in this field.

The computer technology program offers excellent prospects for professional positions in both business and industry where the sophistication and implementation of computers dominate a broad spectrum of employment opportunities. This region of the state has a large concentration of technology firms that employ information system designers and application integrators. Classes are usually offered both during the day and in the evening.

Admission Requirements

The B.S.C.T. degree program is designed to admit students who satisfy the general undergraduate admission (p. 22) requirements of the University and have an associate degree or equivalent course work in preparatory programs such as computer information systems, computer technology, data processing or closely related disciplines. A minimum grade point average (g.p.a.) of 2.5 is required for admission into the program. Students with a g.p.a. of 2.0 to 2.5 may be admitted as Pre-Engineering Technology students, and may be transferred into the B.S.C.T. program upon successful completion of pre-calculus (MAT 1800) and physical science courses, with a g.p.a. of 2.5 or above.

A Mathematics Placement Examination is required of entering students who have not already earned advanced credit in pre-calculus.

Candidates for the B.S.C.T. degree must earn a minimum of 124 credits, as outlined in one of the following major programs and including the University General Education Requirements (p. 34). University policy allows a maximum of sixty-four semester credits transferred from community colleges to Wayne State, but students following University-approved articulation agreements with community colleges are able to exceed the maximum of sixty-four credits; a minimum of thirty semester credits must be earned from Wayne State, at least twenty-four of which must be in Division of Engineering Technology courses. All coursework must be completed in accordance with the academic procedures of the University (p. 11) and the College (p. 136) and must conform to Division (p. 162) academic standards.

In order to graduate, the University requires a minimum 2.0 g.p.a. in total resident credit, and the Division a minimum 2.0 g.p.a. in total coursework in the area of specialization; as well as satisfaction of all University Undergraduate General Education Requirements.

Plan of Study: Due to wide variation in backgrounds of associate degree holders, as well as differing rates of progress of full- or part-time students, an individually-tailored plan of study will be developed for each student, in conjunction with a faculty advisor. Courses will be selected based on the student's academic preparation, course prerequisites, and proposed scheduling of courses.

Required Background: Any student deficient in any courses listed under Lower Division (Community College) Technical Transfer Credit will be required to remove the deficiency before completion of fifteen credits in basic science/mathematics and technical core courses.

Program Requirements: The Bachelor of Science in Computer Technology requires at least 124 credits as outlined below:

Code	Title	Credits
Basic Science and Mathematics		
CSC 1100	Problem Solving and Programming	3
CSC 1101	Problem Solving and Programming Laboratory	1
MAT 1800	Elementary Functions (QE)	4
MAT 3430	Applied Differential and Integral Calculus	4
(NSI) Natural Science Inquiry Courses (minimum 2)		6
(NSI) Natural Science Inquiry Lab		1
B.S.C.T. Technical Core		
CSC 3750	Introduction to Web Technology	3
CSC 4110	Software Engineering	3
CSC 4111	Software Engineering: Lab	1
CSC 4420	Computer Operating Systems	3
CSC 4421	Computer Operating Systems: Lab	1
CSC 4710	Introduction to Database Management Systems	3
ET 3850	Reliability and Engineering Statistics	3
ET 3870	Engineering Economic Analysis	3
or ET 5870	Engineering Project Management	
ET 4999	Senior Project	3
EET 3100	Advanced Digital Design	3
EET 3720	Micro and Programmable Controllers	3
EET 4100	Computer Hardware Design	3
EET 5720	Computer Networking Applications	4
CSC/EET Upper Division Technical Electives		6
Lower Division Technical Transfer Credit		
CSC 2110	Computer Science I	3
CSC 2111	Computer Science I Lab	1
CSC 2200	Computer Science II	3
CSC 2201	Computer Science II: Lab	1
EET 2100	Principles of Digital Design	3
EET 2720	Microprocessor Fundamentals	3
Lower Division Tech Electives		25
Communication Requirements		
(BC) Basic Composition courses		3
(IC) Intermediate Composition course (ENG 3050 required)		3
(OC) Oral Communication course		3
Other General Education Requirements		
(CI) Cultural Inquiry		3
(SI) Social Inquiry		3
(DEI) Diversity, Equity and Inclusion		3
(GL) Global Learning		3
(CL) Civic Literacy		3
Total Credits		124

Engineering Technology Honors

Engineering Technology Honors demands a higher level of performance and offers more personal supervision by faculty than the regular curriculum. It is recommended for qualified students who have an interest in research and plan to go on to graduate or professional schools. The Honors Program is open to students seeking the Bachelor of Science in Computer Technology, Electrical/Electronic Engineering Technology, Electromechanical Engineering Technology, and Mechanical Engineering Technology. A cumulative grade point average of at least 3.3 is required for consideration for admission to and continuance in the program. Students are admitted on the recommendation of the Departmental Honors Program advisor. Interested students should contact the advisor and complete the Honors Plan of Work form when declaring their engineering technology major or at the beginning of the senior year. If a student has declared a major in engineering technology prior to entering the Honors Program, a new Declaration of Major must be completed for the Bachelor of Science with Honors.

Department Honors Requirements (12 credits minimum)

- Students must meet all the ordinary requirements of the Engineering Technology major, and must have a 3.3 GPA overall
- One 4200- level HON seminar (HON 4200-4280) (Cr. 3)
- Thesis-Honors Option with ET 4999 (Cr. 3)
- Two Honors Options courses within the engineering technology major, taught by full-time faculty member (Cr. 3-4 each)

Construction Management (B.S.C.M.)

A professional construction manager is someone who coordinates all that goes into a construction project. The overall goal of a construction manager is to produce a financially sound project that is completed on time and meets the specific needs of the client as well as the codes put forth by governmental agencies. Responsibilities of a construction manager are project planning, cost, time, safety, quality, and contracts.

Working professionals seeking to advance their education, students interested in construction management, or seasoned employees looking to start their own companies often choose construction management to help achieve career goals. People with construction management degrees often work as project managers, superintendents, estimators, schedulers, or green construction/LEED specialists. Many people in the construction industry own and operate their own businesses.

The program offered in construction management specialization includes course work on construction project management, estimating, scheduling, safety, legal and professional aspects, specifications, computer applications and a capstone project. Additional courses from the Business School on accounting, marketing, and management complement the program. Co-op and internship opportunities are available to the students in summers as well as the academic year.

Admission Requirements

This program is designed to admit students who satisfy the general undergraduate admission (p. 22) requirements of the University and have an associate degree or equivalent course work in architectural technology, construction technology, and civil technology. A minimum grade point average (g.p.a.) of 2.5 is required for admission into the program. Students with a g.p.a. of 2.0 to 2.5 may be admitted as pre-engineering technology students, and may be transferred into the B.S.C.M. program upon successful completion of pre-calculus (MAT 1800) and physical science courses, with a g.p.a. of 2.5 or above.

A Mathematics Placement Examination is required of entering students who have not already earned advanced credit in pre-calculus.

Candidates for the B.S.C.M. degree must earn a minimum of 120 credits, as outlined in one of the following major programs and including the University General Education Requirements (p. 34). University policy allows a maximum of sixty-four semester credits transferred from community colleges to Wayne State, but students following University-approved articulation agreements with community colleges are able to exceed the maximum of sixty-four credits; a minimum of thirty semester credits must be earned from Wayne State, at least twenty-four of which must be in Division of Engineering Technology courses. All coursework must be completed in accordance with the academic procedures of the University (p. 11) and the College (p. 136) and must conform to Division (p. 162) academic standards.

In order to graduate, the University requires a minimum 2.0 g.p.a. in total resident credit, and the Division a minimum 2.0 g.p.a. in total coursework in the area of specialization; as well as satisfaction of all University Undergraduate General Education Requirements.

Program Requirements: The Bachelor of Science in Construction Management degree requires a minimum of 120 credits as outlined in the following curriculum.

Code	Title	Credits
Basic Sciences and Mathematics		
MAT 1800	Elementary Functions (QE)	4
MAT 3430	Applied Differential and Integral Calculus	4
CHM 1020	Survey of General Chemistry (NSI)	4
PHY 2130	Physics for the Life Sciences I (NSI)	4
PHY 2131	Physics for the Life Sciences Laboratory (NSI)	1
Business and Management		
CMT 3050	Construction Accounting and Financial Management	3
CMT 4030	Facilities Management Principles	3
ECO 2020 or ECO 2010	Principles of Macroeconomics (SI) Principles of Microeconomics	4
ET 3870	Engineering Economic Analysis	3
PHI 1120	Professional Ethics (CI)	3
Business Management Elective (3000 or higher course work)		6
Construction Science and Construction Management		
CMT 3000	Construction Estimating and Bidding	3
CMT 3010	Introduction to Construction Management	3
CMT 3020	Residential and Commercial Land Development and Design	3
CMT 3030	Construction Safety Management	3
CMT 3040	Building Codes	3
CMT 3060	Planning and Scheduling	3
CMT 3070	Introduction to Green Construction	3
CMT 3080	Advanced Computers in Construction	3
CMT 4050	Construction Methods	3
CMT 4070	Mechanical and Electrical Systems in Buildings	3
CMT 4200	Senior Project	3
CMT Elective (3000 or higher course work)		3
Lower Division Technical Transfer Credit		
Introduction to 2D and 3D CAD		3
Soils and Foundations		3
Applied Building Construction		3
Lower Division Tech Electives		18

Communication Requirements	
(BC) Basic Composition course	3
(IC) Intermediate Composition course (ENG 3050 required)	3
(OC) Oral Communication course	3
General Education Requirements	
(DEI) Diversity, Equity and Inclusion	3
(GL) Global Learning	3
(CIV) Civic Literacy	3
Total Credits	120

Electric Transportation Technology (B.S.E.T.T.)

The Bachelor of Science in Electric Transportation Technology (B.S.E.T.T.) Program prepares students for dynamic careers in a growing area of the automotive industry. Electric Transportation Technologists use the principals of science and math to solve problems in industry and business. The B.S.E.T.T. curriculum is a broad based, technically-oriented education that emphasizes the application of advanced technology to solve problems, design and develop products, and improve processes, procedures, equipment, and facilities. Possible uses for a B.S.E.T.T. degree include working with electric vehicles, hybrid electric vehicles, plug-in electric vehicles, and fuel-cell vehicles. As demand for efficiency and sustainability grow in the transportation sector, B.S.E.T.T. graduates will be able to meet the needs of industry.

Admission Requirements

Beginning Fall 2017, an admissions moratorium is in effect for this program.

This program is designed to admit students who satisfy the general undergraduate admission (p. 22) requirements of the University and have an associate degree with a minimum grade point average (g.p.a.) of 2.50. Students with a g.p.a. of 2.0 to 2.5 may be admitted as pre-engineering technology students, and may be transferred into the engineering technology program upon successful completion of MAT 1800 and PHY 2130 with a g.p.a. of 2.50.

Required Background: Any student deficient in any courses listed under Lower Division Technical Transfer Credit will be required to remove the deficiencies before electing any EET courses.

A Mathematics Placement Examination is required of entering students who have not already earned advanced credit in pre-calculus.

A moratorium was approved starting Fall 2017. No new students will be admitted.

This program extends the practical and applied base of the associate degree program by means of more theoretical courses in electrical, advanced energy storage, and hybrid electric vehicle technology with additional background courses in mathematics, science, and socio-humanities. Candidates for the B.S.E.T.T. degree must earn a minimum of 128 credits, as outlined in one of the following major programs and including the University General Education Requirements (p. 34). University policy allows a maximum of sixty-four semester credits transferred from community colleges to Wayne State, but students following University-approved articulation agreements with community colleges are able to exceed the maximum of sixty-four credits; a minimum of thirty semester credits must be earned from Wayne State, at least twenty-four of which must be in Division of Engineering Technology courses. All coursework must be completed in accordance with the academic procedures of the University (p. 11) and the College (p. 136) and must conform to Division (p. 162) academic standards.

In order to graduate, the University requires a minimum 2.0 g.p.a. in total resident credit, and the Division a minimum 2.0 g.p.a. in total coursework in the area of specialization; as well as satisfaction of all University Undergraduate General Education Requirements.

Program Requirements: The Bachelor of Science in Electric Transportation Technology requires a minimum of 128 credits as outlined in the following curriculum.

Code	Title	Credits
Basic Science and Mathematics		
CHM 1020	Survey of General Chemistry	4
MAT 1800	Elementary Functions	4
MAT 3430	Applied Differential and Integral Calculus	4
MAT 3450	Applied Calculus and Differential Equations	4
PHY 2130	Physics for the Life Sciences I	4
PHY 2140	Physics for the Life Sciences II	4
Life Science (LS)		
ETT Technical Core		
ET 4999	Senior Project	3
ET 5870	Engineering Project Management	3
EET 3100	Advanced Digital Design	3
EET 3150	Network Analysis	4
EET 3180	Analog Electronics	4
EET 3500	Electrical Machines and Power Systems	3
EET 4200	Control Systems	4
ETT 3190	Fundamentals of Automotive Electrical and Electronic Systems	3
ETT 4150	Fundamentals of Hybrid and Electric Vehicles	3
ETT 4310	Energy Storage Systems for Hybrid and Electric Vehicles	3
ETT 4650	Power Electronics and Charging Infrastructure for Hybrid and Electric Drive Vehicles	3
ETT Upper Division Technical Electives		6
Lower Division Technical Transfer Credit		
ET 2160	Computer Applications for Engineering Technology	2
EET 2100	Principles of Digital Design	3
EET 2720	Microprocessor Fundamentals	3
Automotive Technology-related Courses		12
Other technology courses		12
Communication Requirements		
(BC) Basic Composition course		3
ENG 3050	Technical Communication I: Reports	3
(OC) Oral Communication course		3
Other General Education Requirements		
Historical Studies (HS)		3
American Society and Institutions (AI)		3
Critical and Analytic Thinking (CT) Competency Examination		0
Foreign Culture (FC)		3
Visual and Performing Arts (VP)		3
Philosophy and Letters (PL)		3
Social Sciences (SS)		3
PHY 2131	Physics for the Life Sciences Laboratory	1

Electrical/Electronic Engineering Technology (B.S.E.T.E.E.)

The Bachelor of Science in Electrical/Electronic Engineering Technology (B.S.E.T.E.E.) Program prepares students for diverse and dynamic careers in industry. Electrical/Electronic Engineering Technologists use the principals of science and math to solve problems in industry and business. The B.S.E.T.E.E. program emphasizes hands-on laboratory experiences, and courses stress the practical application of mathematics, science, and engineering to solve real world problems. Possible applications for this degree include: the automotive industry, business machines/professional and scientific equipment, computers and electronics, defense, and electronic utilities. Electrical/Electronic Engineering Technology program is accredited by the Engineering Technology Accreditation Commission of ABET, http://www.abet.org.

Admission Requirements

This program is designed to admit students who satisfy the general undergraduate admission (p. 22) requirements of the University and have an associate degree and a minimum grade point average (g.p.a.) of 2.50. Students with a g.p.a. of 2.0 to 2.5 may be admitted as pre-engineering technology students, and may be transferred into the engineering technology program upon successful completion of MAT 1800 and PHY 2130 with a g.p.a. of 2.50.

Required Background: Any student deficient in any courses listed under Lower Division Technical Transfer Credit will be required to remove the deficiencies before electing any EET courses

A Mathematics Placement Examination is required of entering students who have not already earned advanced credit in pre-calculus.

This program extends the practical and applied base of the associate degree program with theoretical courses in electrical engineering and engineering technology, and additional courses in mathematics, science, and socio-humanities. Candidates for the B.S.E.T.E.E. degree must earn a minimum of 124 credits, as outlined in one of the following major programs and including the University General Education Requirements (p. 34). University policy allows a maximum of sixty-four semester credits transferred from community colleges to Wayne State, but students following University-approved articulation agreements with community colleges are able to exceed the maximum of sixty-four credits; a minimum of thirty semester credits must be earned from Wayne State, at least twenty-four of which must be in Division of Engineering Technology courses. All coursework must be completed in accordance with the academic procedures of the University (p. 11) and the College (p. 136) and must conform to Division (p. 162) academic standards.

In order to graduate, the University requires a minimum 2.0 g.p.a. in total resident credit, and the Division a minimum 2.0 g.p.a. in total coursework in the area of specialization; as well as satisfaction of all University Undergraduate General Education Requirements.

Plan of Study: Due to the various educational backgrounds of associate degree graduates and the different rates of progress of full-time and part-time students, individual plans of study are developed for students in conjunction with faculty advisors.

NOTE: A student who, after receiving one undergraduate degree at Wayne State University, wishes to obtain a second bachelor's degree must complete at least thirty credits beyond those applied toward the first degree.

Program Requirements: The Bachelor of Science in Electrical/Electronic Engineering Technology requires a minimum of 124 credits as outlined in the following curriculum.

Code	Title	Credits
Basic Science and Mathematics		
MAT 1800	Elementary Functions (QE)	4
MAT 3430	Applied Differential and Integral Calculus	4
MAT 3450	Applied Calculus and Differential Equations	4
CHM 1020	Survey of General Chemistry (NSI)	4
PHY 2130	Physics for the Life Sciences I (NSI)	4
PHY 2131	Physics for the Life Sciences Laboratory (NSI)	1
PHY 2140	Physics for the Life Sciences II	4
PHY 2141	Physics for the Life Sciences Laboratory	1
EET Technical Core		
ET 3850	Reliability and Engineering Statistics	3
ET 3870	Engineering Economic Analysis	3
ET 5870	Engineering Project Management	3
EET 3100	Advanced Digital Design	3
EET 3150	Network Analysis	4
EET 3180	Analog Electronics	4
EET 3300	Applied Signal Processing	3
EET 3500	Electrical Machines and Power Systems	3
EET 3720	Micro and Programmable Controllers	3
EET 4200	Control Systems	4
EET Upper Division Technical Electives		6
ET 4999	Senior Project	3
Lower Division Technical Transfer Credit		
ET 2160	Computer Applications for Engineering Technology	2
EET 2000	Electrical Principles	3
EET 2100	Principles of Digital Design	3
EET 2720	Microprocessor Fundamentals	3
Lower Division Tech Electives		21
Communication Requirements		
(BC) Basic Composition course		3
(IC) Intermediate Composition course (ENG 3050 required)		3
(OC) Oral Communication course		3
Other General Education Requirements		
(CI) Cultural Inquiry (PHI 1120 required)		3
(SI) Social Inquiry		3
(DEI) Diversity, Equity and Inclusion		3
(GL) Global Learning		3
(CIV) Civic Literacy Inquiry		3
Total Credits		124

Engineering Technology Honors

Engineering Technology Honors demands a higher level of performance and offers more personal supervision by faculty than the regular curriculum. It is recommended for qualified students who have an interest in research and plan to go on to graduate or professional schools. The Honors Program is open to students seeking the Bachelor of Science in Computer Technology, Electrical/Electronic Engineering Technology, Electromechanical Engineering Technology, and Mechanical Engineering Technology. A cumulative grade point average of at least 3.3 is required for consideration for admission to and continuance in the program. Students are admitted on the recommendation of the Departmental Honors Program advisor. Interested students should contact the advisor

and complete the Honors Plan of Work form when declaring their engineering technology major or at the beginning of the senior year. If a student has declared a major in engineering technology prior to entering the Honors Program, a new Declaration of Major must be completed for the Bachelor of Science with Honors.

Department Honors Requirements (12 credits minimum)

- Students must meet all the ordinary requirements of the Engineering Technology major, and must have a 3.3 GPA overall
- One 4200- level HON seminar (HON 4200-4280) (Cr. 3)
- Thesis-Honors Option with ET 4999 (Cr. 3)
- Two Honors Options courses within the engineering technology major, taught by full-time faculty member (Cr. 3-4 each)

Electromechanical Engineering Techonology (B.S.E.T.E.M.)

The Bachelor of Science in Electromechanical Engineering Technology (B.S.E.T.E.M.) offers an interdisciplinary education, resulting from the integration of electronics and computers in engineering systems. This major offers an individual plan of study with coursework in electronics, electrical, manufacturing, and mechanical areas, with appropriate prerequisite courses. The program is designed to extend the practical and applied base of the associate degree program with more theoretical and comprehensive engineering technology courses, and additional courses in mathematics, science, and socio-humanities.

Admission Requirements

This program is designed to admit students who satisfy the general undergraduate admission (p. 22) requirements of the University and have an associate degree in electrical, electronics, industrial, manufacturing, mechanical, or related technology from a community college or equivalent college-level course-work. A minimum grade point average (g.p.a.) of 2.50 is required for admission to the program. Students with a g.p.a. of 2.0 to 2.5 may be admitted as pre-engineering technology students, and may be transferred into the engineering technology program upon successful completion of MAT 1800 and PHY 2130 with a g.p.a. of 2.50.

Required Background: Any student deficient in any courses listed under Lower Division Technical Transfer Credit will be required to remove deficiencies before completing fifteen credits in basic science/ mathematics and technical core courses.

A Mathematics Placement Examination is required of entering students who have not already earned advanced credit in pre-calculus.

Candidates for the B.S.E.T.E.M. degree must earn a minimum of 124 credits, as outlined in one of the following major programs and including the University General Education Requirements (p. 34). University policy allows a maximum of sixty-four semester credits transferred from community colleges to Wayne State, but students following University-approved articulation agreements with community colleges are able to exceed the maximum of sixty-four credits; a minimum of thirty semester credits must be earned from Wayne State, at least twenty-four of which must be in Division of Engineering Technology courses. All coursework must be completed in accordance with the academic procedures of the University (p. 11) and the College (p. 136) and must conform to Division (p. 162) academic standards.

In order to graduate, the University requires a minimum 2.0 g.p.a. in total resident credit, and the Division a minimum 2.0 g.p.a. in total coursework in the area of specialization; as well as satisfaction of all University Undergraduate General Education Requirements.

Program Requirements: The Bachelor of Science in Electromechanical Engineering Technology requires a minimum of 124 credits as outlined in the following curriculum.

Code	Title	Credits
Basic Science and Mathematics		
MAT 1800	Elementary Functions (QE)	4
MAT 3430	Applied Differential and Integral Calculus	4
MAT 3450	Applied Calculus and Differential Equations	4
CHM 1020	Survey of General Chemistry (NSI)	4
PHY 2130	Physics for the Life Sciences I (NSI)	4
PHY 2131	Physics for the Life Sciences Laboratory (NSI)	1
PHY 2140	Physics for the Life Sciences II	4
PHY 2141	Physics for the Life Sciences Laboratory	1
EMT Technical Core		
ET 3030	Statics	3
ET 3050	Dynamics	3
ET 3850	Reliability and Engineering Statistics	3
ET 3870	Engineering Economic Analysis	3
or ET 5870	Engineering Project Management	
EET 3150	Network Analysis	4
EET 3500	Electrical Machines and Power Systems	3
EET 3720	Micro and Programmable Controllers	3
EET 4200	Control Systems	4
MCT 3010	Instrumentation	3
MIT 3500	Machine Tool Laboratory	1
EMT Upper Division Technical Electives		9
ET 4999	Senior Project	3
Lower Division Technical Transfer Credit		
ET 2140	Computer Graphics	3
ET 2160	Computer Applications for Engineering Technology	2
ET 2200	Engineering Materials	3
EET 2000	Electrical Principles	3
EET 2720	Microprocessor Fundamentals	3
Lower Division Tech Electives		18
Communication Requirements		
(BC) Basic Composition course		3
(IC) Intermediate Composition course (ENG 3050 required)		3
(OC) Oral Communication course		3
Other General Education Requirements		
(CI) Cultural Inquiry (PHI 1120 required)		3
(SI) Social Inquiry		3
(DEI) Diversity, Equity and Inclusion		3
(GL) Global Learning		3
(CIV) Civic Literacy		3
Total Credits		124

Engineering Technology Honors

Engineering Technology Honors demands a higher level of performance and offers more personal supervision by faculty than the regular curriculum. It is recommended for qualified students who have an interest in research and plan to go on to graduate or professional schools. The Honors Program is open to students seeking the Bachelor of Science in Computer Technology, Electrical/Electronic Engineering Technology,

Electromechanical Engineering Technology, and Mechanical Engineering Technology. A cumulative grade point average of at least 3.3 is required for consideration for admission to and continuance in the program. Students are admitted on the recommendation of the Departmental Honors Program advisor. Interested students should contact the advisor and complete the Honors Plan of Work form when declaring their engineering technology major or at the beginning of the senior year. If a student has declared a major in engineering technology prior to entering the Honors Program, a new Declaration of Major must be completed for the Bachelor of Science with Honors.

Department Honors Requirements (12 credits minimum)

- Students must meet all the ordinary requirements of the Engineering Technology major, and must have a 3.3 GPA overall
- One 4200- level HON seminar (HON 4200-4280) (Cr. 3)
- Thesis-Honors Option with ET 4999 (Cr. 3)
- Two Honors Options courses within the engineering technology major, taught by full-time faculty member (Cr. 3-4 each)

Manufacturing Engineering Technology (B.S.M.A.E.T.)

The Bachelor of Science In Manufacturing Engineering Technology (B.S.M.A.E.T.) degree prepares students for professional work in manufacturing industry and advanced production systems. This is a program of study which provides a combination of professional courses in manufacturing, processes and systems, robotics, mechatronics and industrial automation, and welding and assembly processes. The particular strengths of the program include: applied hands-on curriculum; hardware-oriented laboratory experiences; scientific advancement merged with applications; and the various skills and knowledge required for the enhanced job market in this field. This region of Michigan has a large concentration of high technology firms which employ manufacturing professionals, designers, and application integrators. The program offers excellent prospects for professional positions in both business and industry, where manufacturing dominates a broad spectrum of employment opportunities. Classes in the B.S.M.A.E.T.. program are usually offered both during the day and in the evening.

Admission Requirements

The B.S.M.A.E.T. degree program is designed to admit students who satisfy the general undergraduate admission (p. 22) requirements of the University and have an associate degree or equivalent course work in manufacturing. A minimum grade point average (g.p.a.) of 2.5 is required for admission into the program. Students with a g.p.a. of 2.0 to 2.5 may be admitted as Pre-Engineering Technology students, and may be transferred into the B.S.M.A.E.T. program upon successful completion of pre-calculus (MAT 1800) and physics courses, with a g.p.a. of 2.5 or above.

A Mathematics Placement Examination is required of entering students who have not already earned advanced credit in pre-calculus.

Candidates for the B.S.M.A.E.T. degree must earn a minimum of 128 credits, as outlined in one of the following major programs and including the University General Education Requirements (p. 34). University policy allows a maximum of sixty-four semester credits transferred from community colleges to Wayne State, but students following University-approved articulation agreements with community colleges are able to exceed the maximum of sixty-four credits; a minimum of thirty semester credits must be earned from Wayne State, at least twenty-four of which must be in Division of Engineering Technology courses. All coursework must be completed in accordance with the academic procedures of the University (p. 11) and the College (p. 136) and must conform to Division (p. 162) academic standards.

In order to graduate, the University requires a minimum 2.0 g.p.a. in total resident credit, and the Division a minimum 2.0 g.p.a. in total coursework in the area of specialization; as well as satisfaction of all University Undergraduate General Education Requirements including satisfactory achievement of the Critical Thinking Requirement either by completion of a (CT) course or by passing the Critical Thinking Competency Examination (administered by Testing, Evaluation, and Student Life Research Services).

Program Requirements: The Bachelor of Science in Manufacturing Engineering Technology requires 128 credits as outlined in the following curriculum.

Code	Title	Credits
Basic Science and Mathematics		
CHM 1020	Survey of General Chemistry	4
MAT 1800	Elementary Functions	4
MAT 3430	Applied Differential and Integral Calculus	4
PHY 2130	Physics for the Life Sciences I	4
PHY 2131	Physics for the Life Sciences Laboratory	1
PHY 2140	Physics for the Life Sciences II	4
PHY 2141	Physics for the Life Sciences Laboratory	1
Life Sciences (LS) elective		3
MFT Upper Division Core		
ET 3030	Statics	3
ET 3050	Dynamics	3
ET 5100	Fundamentals of Mechatronics and Industrial Applications	3
ET 5870	Engineering Project Management	3
ET 4999	Senior Project	3
MCT 3010	Instrumentation	3
MIT 3500	Machine Tool Laboratory	1
MIT 3520	Manufacturing Processes Theory	2
MIT 3600	Process Engineering	3
MIT 4700	Computer-Aided Design and Manufacturing	3
MIT 4800	Quality Control	4
MIT Upper Division Technical Electives (Elective Topics: Additive Manufacturing, Robotics, Industrial Automation, 3D Printing, Machine Vision)		15
Lower Division Technical Transfer Credit		
ET 2140	Computer Graphics	3
ET 2200	Engineering Materials	3
EET 2000	Electrical Principles	3
Other technology courses		21
Communication Requirements		
(BC) Basic Composition course		3
(IC) Intermediate Composition course		3
(OC) Oral Communication course		3
Other General Education Requirements		
American Society and Institutions (AI)		3
Critical and Analytic Thinking (CT) Competency Examination		0
Foreign Culture (FC)		3
Historical Studies (HS)		3
Philosophy and Letters (PL)		3
Social Sciences (SS)		3

Visual and Performing Arts (VP)	3
Total Credits	128

Mechanical Engineering Technology (B.S.E.T.M.E.)

The Mechanical Engineering Technology (B.S.E.T.M.E.) Program prepares students for diverse and dynamic careers in industry. B.S.E.T.M.E. graduates work in fields that require understanding of the relationships and dependencies among materials, product development, manufacturing systems and processes, or energy production, transformation and transmission (including alternative energy). The program emphasizes hands-on laboratory experiences, and courses stress the practical application of mathematics, science, and engineering to solve real world problems. The B.S.E.T.M.E. program provides students with a well-rounded education focused on the knowledge of existing and new developments in their technical specialty. The program offers students the opportunity to specialize in one of three tracks: design, energy, or manufacturing. B.S.E.T.M.E. graduates work with their minds as well as their hands to solve problems related to their chosen area of specialization.

The Bachelor of Science in Mechanical Engineering Technology (B.S.E.T.M.E.) program is accredited by the Engineering Technology Accreditation Commission of ABET, http://www.abet.org.

Admission Requirements

This program is designed to admit students who satisfy the general undergraduate admission (p. 22) requirements of the University and have an associate degree or equivalent college-level course work in one of the following or related technical areas:

- Aerospace Technology
- Automotive Technology
- Climate Control
- Computer-Aided Design
- Drafting
- Energy Technology
- Fluid Power
- Manufacturing
- Mechanical Design
- Mechanical Technology
- Powerplant

A minimum grade point average (g.p.a.) of 2.50 is required for admission to the program. Students with a g.p.a. of 2.0 to 2.5 may be admitted as pre-engineering technology students, and may transfer into the engineering technology program upon successful completion of MAT 1800 and PHY 2130 with a g.p.a. of 2.50.

Required Background: Any student deficient in any course listed under Lower Division Technical Transfer Credit will be required to remove the deficiency before completing fifteen credits in basic science/ mathematics and technical core courses.

A Mathematics Placement Examination is required of entering students who have not already earned advanced credit in pre-calculus.

Candidates for the B.S.E.T.M.E. degree must earn a minimum of 124 credits, which includes University General Education requirements, (p. 34) as outlined in one of the following major programs, . University policy allows a maximum of sixty-four semester credits transferred from community colleges to Wayne State, but students following University-approved articulation agreements with community colleges are able to exceed the maximum of sixty-four credits; a minimum of thirty semester credits must be earned from Wayne State, and at least twenty-four must be in the Division of Engineering Technology courses. All coursework must be completed in accordance with the academic procedures of the University (p. 11) and the College (p. 136) and must conform to Division (p. 162) academic standards.

In order to graduate, the University requires a minimum 2.0 g.p.a. in total resident credit, and the Division a minimum 2.0 g.p.a. in total coursework in the area of specialization; as well as satisfaction of all University Undergraduate General Education requirements.

Program Requirements: The Bachelor of Science in Mechanical Engineering Technology requires a minimum of 124 credits as outlined in the following curriculum.

Code	Title	Credits
Basic Science and Mathematics		
MAT 1800	Elementary Functions (QE)	4
MAT 3430	Applied Differential and Integral Calculus	4
MAT 3450	Applied Calculus and Differential Equations	4
CHM 1020	Survey of General Chemistry (NSI)	4
PHY 2130	Physics for the Life Sciences I (NSI)	4
PHY 2131	Physics for the Life Sciences Laboratory (NSI)	1
PHY 2140	Physics for the Life Sciences II	4
PHY 2141	Physics for the Life Sciences Laboratory	1
MCT Upper Division Core		
ET 3030	Statics	3
ET 3050	Dynamics	3
ET 3850	Reliability and Engineering Statistics	3
ET 3870	Engineering Economic Analysis	3
ET 5870	Engineering Project Management	3
MCT 3010	Instrumentation	3
MCT 4150	Applied Thermodynamics	3
MIT 3500	Machine Tool Laboratory	1
ET 4999	Senior Project	3
Select one of the following tracks:		17
Design Track		
MCT 3100	Mechanics of Materials	
MCT 3410	Kinematics and Dynamics of Machines	
MCT 4400	Design of Machine Elements	
Upper Division Technical Electives (8 credits required)		
Energy Track		
MCT 4180	Fluid Mechanics	
MCT 4210	Heat Transfer	
MCT 5210	Energy Sources and Conversion	
Upper Division Electives (8 credits required)		
Manufacturing Track		
MIT 3520	Manufacturing Processes Theory	
MIT 3600	Process Engineering	
MIT 4700	Computer-Aided Design and Manufacturing	
Upper Division Electives (9 credits required)		
Lower Division Technical Transfer Credit		32
ET 2140	Computer Graphics	
ET 2160	Computer Applications for Engineering Technology	
ET 2200	Engineering Materials	
EET 2000	Electrical Principles	

Lower Division Tech Electives	
Communication Requirements	9
(BC) Basic Composition course	
(IC) Intermediate Composition course (ENG 3050 required)	
(OC) Oral Communication course	
Other General Education Requirements	15
(CI) Professional Ethics (PHI 1120 required)	
(SI) Social Inquiry	
(DEI) Diversity, Equity, Inclusion	
(GL) Global Learning Inquiry	
(CIV) Civic Inquiry	
Total Credits	124

Engineering Technology Honors

Engineering Technology Honors demands a higher level of performance and offers more personal supervision by faculty than the regular curriculum. It is recommended for qualified students who have an interest in research and plan to go on to graduate or professional schools. The Honors Program is open to students seeking the Bachelor of Science in Computer Technology, Electrical/Electronic Engineering Technology, Electromechanical Engineering Technology, and Mechanical Engineering Technology. A cumulative grade point average of at least 3.3 is required for consideration for admission to and continuance in the program. Students are admitted on the recommendation of the Departmental Honors Program advisor. Interested students should contact the advisor and complete the Honors Plan of Work form when declaring their engineering technology major or at the beginning of the senior year. If a student has declared a major in engineering technology prior to entering the Honors Program, a new Declaration of Major must be completed for the Bachelor of Science with Honors.

Department Honors Requirements (12 credits minimum)

- Students must meet all the ordinary requirements of the Engineering Technology major, and must have a 3.3 GPA overall
- One 4200- level HON seminar (HON 4200-4280) (Cr. 3)
- Thesis-Honors Option with ET 4999 (Cr. 3)
- Two Honors Options courses within the engineering technology major, taught by full-time faculty member (Cr. 3-4 each)

Nanoengineering (Undergraduate Certificate Program)

Nanoengineering is the study and implementation of techniques to work with small collections atoms and molecules at the "nano"-scale (i.e., 1-100 nanometers), at which new physical properties and phenomena emerge. The undergraduate nanoengineering certificate program of the College of Engineering is distinct from existing undergraduate programs in that students take courses toward this certificate program while pursuing their B.S. degree. Four courses plus a seminar course are required for completion of the certificate. This program offers nanoengineering courses that provide students with knowledge and hands-on experience in this newly developing field.

The Certificate Program's learning objectives include:

- To provide students in-depth training in nanotechnology and nano-medicine in one unified certificate program that crosses traditional departmental and disciplinary boundaries
- To increase students' knowledge in engineered materials, processes, and devices by linking less familiar nanoscale phenomena with more familiar bulk materials and phenomena
- To offer students hands-on laboratory training in nanotechnology
- To offer students research experience either in faculty labs or industrial labs
- To prepare students for a career in nanotechnology, high tech, and advanced manufacturing industries or research institutions
- To enable students to develop a strong multidisciplinary educational background to be competitive in a global economic environment
- To enable students to develop professional, communication, and teamwork skills that will widen their career options

Admission Requirements include current enrollment in a related bachelor's degree program or previous award of a related bachelor's degree. The program will be open only to:

1. current WSU undergraduate students who have completed at least sixty credits and have a g.p.a. of 3.0 or above; and
2. students who have previously earned a bachelor's degree at WSU or another accredited institution with a final cumulative g.p.a. of 3.0 or above.

Eligible students not currently enrolled at WSU may apply for direct admission to the program.

Certificate Requirements: Fifteen credits including all of the following courses:

Code	Title	Credits
NEN 5000	Introduction to Nanotechnology and Nanomedicine	4
NEN 5100	Nanoengineering Lab	2
NEN 5200	Scale-down Engineering - from Engineered Systems to Nanotechnology	4
NEN 5300	Nanoengineering Research and Capstone Design	4
NEN 5400	Nanoengineering Seminar	1
Total Credits		15

All students must earn at least a grade of B in each of the courses to be applied toward the certificate and complete all the coursework with an overall g.p.a. of at least 3.0. Students concurrently enrolled in an engineering undergraduate program will be governed by the College's overall policy on substandard grades for students pursuing a B.S. degree. Students who have completed a B.S. degree and are pursuing only the certificate will be allowed one substandard grade, with a subsequent successful repeat of the course, during completion of the program.

COLLEGE OF FINE, PERFORMING AND COMMUNICATION ARTS

Dean: Matthew Seeger

Mission Statement

The College of Fine, Performing and Communication Arts at Wayne State University provides the highest quality education for practitioners, scholars, and consumers in art, art history, communication, dance, music and theatre. This education leads to careers, uses for the arts in other disciplines, enhanced critical abilities, the enrichment of everyday life and the building of new generations of artists, professionals and scholars. Programs of study focus on the integration of theory and practice through the creation, discovery, preservation and transmission of knowledge in fine, performing and communication arts.

The College serves the University and the larger community by creating partnerships that emphasize its own rich, diverse curriculum, interdisciplinary studies, reciprocal professional interaction and outreach activities appropriate to each area of work. Special emphasis is placed on forging alliances with local, state and national constituencies such that the College is both a leader and a resource providing expertise, information and guidance.

Within an appropriate and attractive academic environment the College promotes an atmosphere conducive to intellectual and artistic growth, risk-taking and personal and professional development at all levels in both individual and collaborative endeavors. This environment also assists the College in its role as a national center for creative, research and teaching excellence.

As the cultural gateway of the University, the College provides public events and curricular offerings that nurture creative development, enrich aesthetic values and sensitivity, heighten awareness of the arts experience and reflect the disciplinary diversity of its areas of study. Cultural, racial, ethnic and gender diversity is an important commitment in public events and educational efforts.

Ultimately, the mission of the College is the integration of theory and practice through the creation, discovery, preservation and transmission of knowledge in the fine, performing and communication arts.

Campus Resources: Traditional courses of study are augmented by a variety of performance and presentation resources considered integral to many of the creative programs. Included in these are the Bonstelle Theatre, the Wayne State University Dance Company, the Wind Symphony and University Symphony Orchestra, the Intercollegiate Debate Team, plus exhibitions in the Elaine L. Jacob Gallery and the Art Department Gallery that feature work created by students and studio faculty. These are only a few of the campus resources that are especially important for majors in the College. A more comprehensive listing can be found under each of the specific Departments.

Detroit Resources: The proximity of the Wayne State campus to institutions of the Detroit Cultural Center (which includes the Detroit Institute of Arts, Museum of Contemporary Art Detroit, the Charles H. Wright Museum of African American History, Michigan Opera Theatre and Orchestra Hall, among other institutions) provides further unique and enriching benefits for students. Professional staff members of these institutions often serve as adjunct faculty in College programs. Nearby, too, are major print and electronic communications resources that similarly provide both adjunct faculty and professional assistance to other programs in the College.

Accrediting Agencies: Programs offered by the Maggie Allesee Department of Theatre and Dance are accredited by the National Association of Schools of Theatre and by the National Association of Schools of Dance. Programs in the Department of Music are accredited by the National Association of Schools of Music. The Public Relations program in the Department of Communication is accredited by the Public Relations Society of America.

Academic Regulations: Fine, Performing and Communication Arts

For complete information regarding academic rules and regulations of the University, students should consult Academic Regulations (p. 11) section of this bulletin. The following additions and amendments apply to the College of Fine, Performing and Communication Arts.

Academic Advising

The College provides comprehensive academic advising for each major in the department in which the major resides. In consultation with their academic advisor, students are expected to create an academic Plan of Work and review their progress with the advisor on a regular basis. Freshmen and sophomores should meet with their academic advisor at least once each semester. Juniors and seniors should meet with their advisor at least once per year and should also be consulting with their faculty mentors. Students should always seek advising immediately if they are having difficulties in their academic work.

Attendance

Regular attendance and performance is necessary for success in college work. Each instructor, at the beginning of the course, will announce attendance requirements.

Normal Program Load

The requirements for graduation are based upon an average program of fifteen credits per semester for eight semesters. The normal load shall not exceed eighteen credits.

Because two hours of outside preparation are normally expected for each class hour in each course, a fifteen credit program calls for approximately forty-five hours of class attendance and study per week. Students who undertake such a program should expect to give it their full time and energy. A few hours of employment a week may be safely added to this program by a capable student.

Extra Credits: Extra credits are any credits taken in excess of the normal load of eighteen credits per term. A student with a 3.0 grade point average may take more than eighteen credits, but not to exceed twenty-one credits, only when the proposed program carries the written approval of the academic advisor.

Retention of Student Records

Term papers and examinations shall either be returned to the student or retained by the instructor for a minimum of six months. Thereafter they may be destroyed. Instructors shall retain grade records for at least five years following the end of a term, and instructors who leave the institution shall give grade records for courses conducted during the past five years to their department chairperson. Five years after the end of a course, grade records may be returned to the instructor or destroyed by the department.

Dean's List

The Dean's List of academically exemplary students is compiled each fall and winter term based on the following criteria: a 3.75 grade point average for students registered for full-time programs of twelve credits or more that contribute to the grade point base; and a 4.0 grade point average for students registered for between six and eleven credits. Students who receive marks of I, WN, or WF, or grades of N or U (p. 48) are not eligible.

Academic Probation

Low Grade Point Average

If a student's work averages below 2.0, the student will be placed on academic probation (p. 11). The student will be required to obtain permission from an advisor before registering, as outlined in an email to the student, with instructions for addressing the Probation status. Such permission to register will be granted only after the student meets with his/her departmental advisor and/or the college's Success Coach, depending on the student's level of Probation and the instructions provided in the Probation notification email. The student and advisor/ Success Coach will identify previous causes of academic difficulty and will formulate a plan for future academic success.

Registration and Holds on Records

A student on academic probation has an academic probationary 'hold' placed on his/her record, and must obtain a release of this hold each term before being permitted to register. To obtain this release, the student must meet with his/her departmental advisor and/or the college's Success Coach, as indicated above under 'Low Grade Point Average.' The hold will not be released after the last day of the final registration period for the term in which the student intends to register.

Restriction

While on academic probation, a student may not represent the College in student activities.

Removal of Probation

Academic probation will be removed at the end of any term in which the student achieves a cumulative grade point average of 2.0 (C) or higher for all degree work taken at the University.

Exclusion

Low Grade Point Average

A student on academic probation shall be allowed three subsequent terms for enrollment in probationary status. At the conclusion of the three terms, a student who has not achieved a cumulative grade point average of at least 2.0 shall be dismissed from the College. This dismissal may be reviewed by the Reinstatement & Appeals Committee of the College if the student submits appropriate paperwork evidencing his/her eligibility to return and remain successful. A student dismissed from the College may not be reinstated until one calendar year has passed; however, reinstatement paperwork may be submitted as early as one semester prior to the student's eligible reinstatement date. A student may appeal dismissal during the semester following the dismissal notification.

Reinstatement

After one year of exclusion, the student may apply for reinstatement to the College. The reinstatement application must be returned to the CFPCA Dean's Office on or before whichever following deadline precedes the student's eligible reinstatement semester: October 15th, February 15th, or June 15th. The decision to reinstate the student will be based upon evidence presented by the student that circumstances have changed and that the probability for success has increased. For further information, visit the college's website at http://cfpca.wayne.edu/reinstatement.php .

Cheating and Plagiarism

The principle of honesty is recognized as fundamental to a scholarly community. Students are expected to honor this principle and instructors are expected to take appropriate action when instances of academic dishonesty are discovered. An instructor, on discovering such an instance, may give a failing grade on the assignment or for the course. Serious acts of dishonesty may lead to suspension or exclusion.

The instructor has the responsibility to notify the student of the alleged violation and the action being taken. Both the student and the instructor are entitled to academic due process in all such cases. Information on procedures is available through the Dean of Students Office.

Grade Appeal Procedure

It is the instructor's prerogative to evaluate student work and assign grades in accordance with his or her academic and professional judgment. Grounds to appeal a final grade include the following:

1. The application of nonacademic criteria in the grading process: race, color, sex (including gender identity), national origin, religion, age, sexual orientation, familial status, marital status, height, weight, disability, or veteran status
2. Evaluation of student work by criteria not directly related to course requirements
3. A miscalculation of the grade according to information contained on the course syllabus or other posted or distributed information

Note: These policy guidelines do not apply to:

1. allegations of academic dishonesty. Academic dishonesty matters should be addressed under Section 10.1 of the (https://doso.wayne.edu/pdf/student-code-of-conduct.pdf)**WSU Student Code of Conduct** (https://doso.wayne.edu/pdf/student-code-of-conduct.pdf)**.**

2. allegations of harassment or discrimination in the learning environment. These matters should be

   addressed to the Office of Equal Opportunity http://oeo.wayne.edu

Coursework Grades

Disputes over grades should first be addressed informally between the student and the course instructor. If the student and instructor cannot reach a mutually agreeable resolution, the student can formally appeal the final course grade.

If a student seeks to formally appeal a final course grade, the following steps need to be taken.

Final Grade Appeal - for Undergraduate and Graduate Students

1. The student must initiate any final grade appeal in writing, including any supporting documentation, within thirty (30) days following official notification of grades for the term. The appeal is to be addressed to the course instructor. The instructor is to respond within ten (10) days of receiving the appeal.

• If the instructor notifies the student of the grade to be assigned BEFORE a course is officially concluded, the student can initiate the grade appeal process as soon as they have received the written notification from

the instructor of the grade. This written notification of the grade must be given by the student to the Department Chair as part of the appeal documentation.

2. If the student is not satisfied with the response or receives no response from the instructor, the student has ten (10) days to submit a written appeal directed to the Department Chair.

3. The student will be notified in writing of the Department's decision within thirty (30) days of receiving the appeal. Appropriate departmental committees may be consulted for advice in grade appeals and the instructor will be invited to reply to the issues raised by the student. In all cases, appeals at the Department level will result in a written response from the Department Chair that is sent to the student and to the instructor.

4. If the student is not satisfied with the response from the Department level, the student may, within ten (10) days of receiving the Department decision, submit a written appeal directed to the Dean of the College and copy it to the Department Chair. This written appeal is to contain a copy of the written appeal that was directed to the Department Chair and a statement explaining the student's dissatisfaction with the Department level response. The College will provide a written decision within thirty (30) days of receipt of the student's appeal.

5. If the student wishes to continue the final grade appeal, the student may request a formal review by the Provost's office within thirty (30) days of the date of the College's response. Such requests are subject to the university's Academic Appeal Procedure found under "Academic Regulations" in the respective Undergraduate or Graduate Bulletin http://bulletins.wayne.edu. The request should be submitted via the online form located at https://provost.wayne.edu/academic-policy.

6. Any meetings held in relation to the appeal shall provide parties the opportunity to present additional information orally or in writing. No additional persons should be permitted at such meetings without advance approval by the Chair or Dean, as appropriate.

7. Students/faculty may contact the Ombudsperson at any time for assistance with any problem associated with a grade decision or grade appeal: ombudsoffice@wayne.edu.

Graduation With Distinction

Wayne State University bestows upon students completing the baccalaureate degree three separate designations for scholastic excellence reflected in the cumulative grade point average: *Cum Laude, Magna Cum Laude*, and *Summa Cum Laude*. Graduation with Distinction will be indicated on the student's diploma and on the transcript.

Graduation with Distinction will recognize at each commencement the top twenty percent of students in the College of Fine, Performing and Communication Arts who have earned the highest grade point average in the College with the following approximate distribution:

Top 5%: Summa Cum Laude
Next 5%: Magna Cum Laude
Next 10%: Cum Laude

The specific minimum grade point average for these distinctions will be determined each year in the following manner (except that it shall not be less than 3.0).

Based on the grade point average distributions of the previous year's senior class, the grade point average cut-offs for the College will be established for the current academic year.

The criteria for Graduation with Distinction include:

1. A minimum of fifty-six credits in residence at Wayne State University;
2. A minimum grade point average, as established above, on all work at Wayne State University completed by the end of the term of graduation. (For notation in the Commencement Program, the grade point average on all work completed prior to the term of graduation will be used.)

Commencement

All students must formally apply for degree certification by the deadline established by the Office of the Registrar for the term of intended graduation.

Information concerning commencement announcements, caps and gowns, invitations, tickets, time and place, assembling and other relevant items will be provided to graduates by the Commencement Office prior to the event.

Bachelor's Degree Requirements: Fine, Performing and Communication Arts

Credits

A candidate for a Bachelor of Arts, Bachelor of Fine Arts, Bachelor of Music, or Bachelor of Science degree must complete at least 120 credits. Certain curricula may require additional credits. Also see Restrictions on Credit below. Degree components comprising these credits are: 1) General Education Requirements; 2) Department Requirements; and 3) Major Requirements.

General Education Requirements

University-wide General Education Requirements are designed to enhance students' basic skills and the diversity of their intellectual background. These requirements assure minimal competence in those skills needed to succeed in college and professional life and provide a selective introduction to the increasingly broad range of academic disciplines represented at the University. They serve to emphasize the fundamental means and essential knowledge required for continuing self-education and intellectual growth.

Entering undergraduate students in the College of Fine, Performing and Communication Arts are required to satisfy the University General Education requirements (p. 34).

Department Requirements

Some of the courses listed in the University General Education program are also courses required by for specific majors within this College. With careful course selection, students may satisfy both General Education Requirements and Department Requirements in some majors (and concentrations, where applicable). For more information, please consult an academic advisor in the major Department.

Major Requirements

A major is a program of intensive study in a Department within the College. The specific course requirements for all such majors are listed in this bulletin under each of the Departmental sections. Some degree programs offer students a choice of concentrations within the major. Students who plan to elect a major should consult with a departmental academic advisor prior to initial course registration. Courses in the major (and concentration, as applicable) must be completed with the grade of 'C' (2.0) or higher OR a C- (1.67) or higher depending on the department. In all cases, a student must have achieved a GPA in the major of 'C' (2.0) or

higher in order to complete the major. In addition, the student is required to maintain a cumulative g.p.a. of 'C' (2.0) or higher for all University coursework.

Students who have not decided on a particular major area of study may initially select an exploratory option thereby indicating only the intention to take a degree in one of the Departments of the College. These options are Exploratory Communication Arts, Exploratory Fine Arts, Exploratory Music, and Exploratory Performing Arts. In partnership with academic advisors, students are encouraged to choose a specific degree program in one of the Departments within thirty credit hours. The exploratory option is not available for transfer students.

Course requirements vary with each curriculum. Exceptions are permitted to the College rules governing the minimum and maximum credits in the major subject and the maximum credits allowed in restricted courses if provision for such exceptions are stated or implied in the curriculum requirements outlined in this bulletin. Descriptions of courses and the various curricula may be found in this Bulletin, under each of the Departmental sections of the College of Fine, Performing and Communication Arts.

Capstone Course: All undergraduate students must successfully complete a capstone course within their major. This course will be taken during the senior year (last thirty credits in course work) and provides a systematic focus on and assessment of the knowledge and skills obtained in the major.

Credits: The major must include at least twenty credits in one subject, exclusive of the introductory courses and inclusive of some advanced work. No more than forty-six credits in the major subject (including introductory courses) may be counted toward a degree, except in specific curricula in which additional courses are specified in the curriculum outline.

For majors that require intensive study in a particular subject, more than forty-six credits are allowed.

Within the above limits and the University's Bulletin-in-Effect (p. 34) Graduation Policy (p. 25), each major program has specific requirements, and these requirements may be modified from time to time; therefore, it is the student's responsibility to stay informed of current requirements from the major Department.

The major completed is part of the degree designation on the diploma.

Double Major (one degree, 2 majors, minimum of 120 credit hours)

If a student wishes to declare a double major, the approval of the chairperson or designated representatives of each of the departments of the intended majors must be obtained. In order for a student to graduate with a double major, the major requirements in both majors (and areas of concentration, as applicable) must be fulfilled and at least 120 credit hours must be earned. All courses in the major must meet the minimum grade requirement designated by the department and an overall GPA in the major of C (2.0) or higher. In addition, the student is required to maintain a cumulative g.p.a. of 'C' (2.0) or higher for all University coursework.

PLEASE NOTE:

1. If the majors are in two different colleges, the student must complete the General Education curriculum of the college that has the most comprehensive requirements;
2. only the name of the first of the two majors will appear on the diploma; and
3. the names of both majors will appear on the transcript. Students who wish to pursue dual concentrations within a single department must secure the permission of the chairperson or designated representative of the department. However, only one concentration will appear on the transcript.

Academic Procedures (Majors and Minors)

For procedures on declaring a major, adding a second major or second degree, or adding a minor, students should consult the sponsoring departmental academic advisor. Students should consult with their academic advisor as soon as possible to establish a comprehensive Plan of Work in order to pursue their academic goals as efficiently and effectively as possible.

Concurrent Degrees (2 degrees, minimum of 150 credit hours)

A student who has completed all the University, School/College, and Department requirements for two different degree programs and who has accumulated 150 or more degree credits may apply for both degrees simultaneously. A separate diploma will be issued for each degree and both degrees will be listed on the transcript. Students must inform the academic advisors in each degree program of their intention to pursue concurrent degrees. Another, and more usual, procedure for students satisfying the requirements of two different major programs is to declare a double major and graduate with one degree, in which case as little as 120 degree credits may be required (see Double Major). All courses in the major must meet the minimum grade requirement designated by the department and an overall GPA in the major of 'C' (2.0) or higher. In addition, the student is required to maintain a cumulative g.p.a.of 'C' (2.0) or higher for all University coursework.

Second Degree

A student who has received a Fine, Performing and Communication Arts degree from Wayne State University or any other accredited institution may obtain a second bachelor's degree in another academic area by registering in the College/School sponsoring the degree program. A graduate of Wayne State University who has earned a degree from the College of Fine, Performing and Communication Arts may be ranked as an undergraduate by declaring a new major (in a departmentally approved area of concentration, as applicable) and indicating a desire to earn a second undergraduate degree. Other Wayne State University graduates must transfer to the College of Fine, Performing and Communication Arts. A student from another institution must be admitted to the College by the University Admissions Office. Courses in the major (and concentration, as applicable) must be completed with the grade of 'C' (2.0) or higher OR a C- (1.67) or higher depending on the department. In all cases, a student must have achieved a GPA in the major of 'C' (2.0) or higher in order to complete the major. In addition, the student is required to maintain a cumulative g.p.a. of 'C' (2.0) or higher for all University coursework.

It is assumed that the second degree major will be different than that of the first degree and the student is not earning redundant credit; generally, no second degree will be granted in the academic area in which the first degree was earned. The University also requires that the student complete at least thirty credits in coursework at Wayne State University beyond the first degree, in order to be granted a second bachelor's degree from Wayne State University.

Fine, Performing and Communication Arts: Minor Options

The College of Fine, Performing and Communication Arts offers the option of minor concentrations in various subjects both to students in

this college and other schools and colleges of the University. Students are strongly encouraged to consult with departmental academic advisors for course selections. Courses in the minor must be completed with the grade of 'C' (2.0) or higher OR a C- (1.67) or higher depending on the department. In all cases, a student must have achieved a GPA in the major of 'C' (2.0) or higher in order to complete the minor. Minors are optional and students may choose not to fulfill the typical 18-21 credits of course work that make up a minor.

The notation of the minor will appear on the transcript but not on the diploma. Early declaration of the minor is encouraged so that coursework can be incorporated into the student's ongoing Plan of Work, see above under Academic Procedures (Majors and Minors).

Senior Rule

In addition to the University policy, the College requires that all competency requirements must be met before Senior Rule (p. 22) registrations can be considered. No student who has competency requirements to fulfill in the final semester of his or her undergraduate program will be eligible to apply for Senior Rule.

Teacher Preparation & Certification

CFPCA music and dance students interested in teaching may choose to complete coursework and clinical experiences leading to K-12 certification as part of a combined program with the College of Education (COE). Students follow the curriculum for their respective major (B.S. or B.F.A. in dance) or concentration (B. M. in music education).

Typically, CFPCA teacher candidates in music or dance begin their academic studies in the College of Fine, Performing and Communication Arts. During the sophomore year, students consult with their academic advisor in their major Department concerning the Level 2 application to the College of Education. This is a separate application leading to dual enrollment in both the CFPCA and the COE. See Level 2 application details below.

Once approved by the College of Education as a candidate for teacher certification, program requests will be signed by both a College of Fine, Performing and Communication Arts major academic advisor and by the appropriate advisor in the College of Education. Required coursework for the COE including fieldwork is completed during the junior and senior years. Students will not be allowed to register for the professional courses taught through the College of Education until they have been officially admitted to the COE.

Admission to the College of Education

Students submit the Level 2 application when all Level 2 admission requirements have been fulfilled. These requirements vary by program and students are encouraged to meet with a departmental academic advisor to review requirements specific to their program. The admission requirements include but are not limited to the following:

1. Successful completion of the Michigan Basic Skills Requirement: SAT Evidence Based Reading & Writing with a score of 480 and Math with a score of 530, or Michigan Department of Education approved alternative pass measure (see a departmental academic advisor for more information).
2. A Negative TB Test within the past three years.
3. A criminal history background check completed through an approved College of Education vendor. There is a fee paid by the student for the check.

Level 2 applications are processed three times per year and must be submitted by the deadlines listed on the COE admissions website. Click here to view additional information including deadlines, and complete the Level 2 Application: http://coe.wayne.edu/admissions/undergrad-requirements.php.

Note: Near the end of the program and at the time of recommending the teacher candidate to the Michigan Department of Education (MDE), Adult and Child CPR and First Aid Certification is required from an approved MDE provider.

Study Abroad

Various opportunities for study abroad are available through the University. Students should contact their major Department and the Study Abroad Office for further information regarding these programs.

Honors Courses

All departments in the College of Fine, Performing and Communication Arts offer Departmental Honors. Students enrolled in the College of Fine, Performing and Communication Arts who are interested in pursuing University or Departmental Honors curricula should refer to Undergraduate Honors Curricula (p. 42), or contact the departmental honors advisor.

Restrictions on Credit

The College imposes the following restrictions on credit:

Maximum Credits in One Subject: A student may not count as credit toward a degree more than forty-six credits in courses in any one subject except in specific curricula in which additional courses are specified in the curriculum outline.

Over-Age Credits: A student attempting to complete a major after a protracted interruption in education, or on a part-time basis over an extended period of time, may find that some of the early course work is out of date. In such cases, a Department may require refresher work or demonstration of preparation for advanced courses in the Department.

Restrictions on Transfer Credit — *Two-year Schools:* No more than sixty-four semester credits may be transferred from two-year colleges unless the student is following an articulation agreement that allows the transfer of additional two-year college credit.

Life Fitness Activity: No more than eight credits may be earned.

Advanced Courses: At least fifteen credits in courses numbered 3000 or above must be earned.

Repeated Subjects: It is understood that degree credit will not be granted for coursework for which credit has already been granted. Since similar courses may have different names at different times and at different colleges, students are advised to make sure they do not offer repeated coursework as credit toward a degree.

Grade Point Average

All students are required to maintain a cumulative grade point average of 'C' (2.0) for all University coursework. In addition, courses in the major (and concentration, as applicable) must be completed with the grade of 'C' (2.0) or higher OR a C- (1.67) or higher depending on the department. In all cases, a student must have achieved a GPA in the major of 'C' (2.0) or higher in order to complete the major.

Residence Requirement

To qualify for a baccalaureate degree in the College of Fine, Performing and Communication Arts a minimum of thirty credits must be earned in the College.

Art and Art History

Office: 150 Art Building, 450 Reuther Mall; 313-577-2980
Interim Chairperson: Brian Kritzman
Undergraduate Advisor: Avanti Herczeg
Academic Services Officer: Michele Porter
Visual Resource Curator: Terry Kerby
Art Exhibitions Director: Tom Pyrzewski
Art Studio Supervisor: Robert Taormina
Art Office Supervisor: Amy Hays
Sculpture and 3D Studio Supervisor: Michael Bogdan
Systems Integrator: Ian Chapp
http://www.art.wayne.edu

The James Pearson Duffy Department of Art and Art History is dedicated to the understanding, production and presentation of works of art in all media. It seeks to explore and develop visual literacy as well as technical, critical and conceptual skills. The curriculum combines history, theory, practice and technology with interdisciplinary learning that aims to nurture a balance between technical proficiency, experimentation with new ideas and studying the visual arts as a means of understanding the intellectual and cultural history of humanity. By receiving a comprehensive training in the visual arts within the context of a liberal arts education, students are encouraged to master the various avenues of creative investigation and learning within the Department as well as in other departments of the College and the University at large. Each student is thereby able to progress from fundamentals to creative and intellectual maturity and given the tools of professionalization in a variety of different areas while immersed in the rich diversity of cultural and research opportunities offered by the University as a whole.

Academic Work Retention Policy: The Department reserves the right to retain, for its permanent collection, the work submitted by students for credit in any course, and to exhibit or reproduce such work in University publications. Students are encouraged to retain work as they proceed through their program, so as to have at least twenty works for a final portfolio review and demonstration of progress.

Advising: All students in the Department of Art and Art History are encouraged to meet regularly with their advisors regarding their selected program of study every semester. Students are advised to register as early as allowable to ensure that classes are available to them. Students are encouraged to take courses pertaining to their major as soon as the first semester of study in the Department of Art and Art History. They are also encouraged to consult a Department advisor for information regarding the declaration of major.

Transfer Students

Transfer students must complete a minimum of twenty-seven resident credits in art courses for the B.F.A. degree with a studio major; a minimum of twelve resident credits with B.A. degree with a studio major; a minimum of twelve resident credits with an art history major; or a minimum of twelve resident credits for either the B.A. or B.S. degree with a major in design and merchandising. The minimum grade for each course required in the major, which must be taken in the Department of Art and Art History, must be no less than a C- in order for the course credit to count toward completion of the degree. A minimum of fifty-six credits must be completed for the degree from a Bachelor Degree granting institution.

Articulation Agreements (Transfer of Credit)

Articulation agreements are formal arrangements by which Wayne State University enters into agreement with other institutions for the transfer of college credits in certain designated degree programs. Students who have come to the Department of Art and Art History to pursue a degree in Art, Design, Art History or Fashion Design and Merchandising under an articulation agreement with another school or college program are required to meet with the Department academic advisor on a regular basis to ensure compliance with the terms of the agreement.

- Art (B.A.) (p. 178)
- Art History (B.A.) (p. 181)
- Design and Merchandising (B.A.) (p. 183)
- Design and Merchandising (B.S.) (p. 184)
- Art (B.F.A.) (p. 179)
- Design (B.F.A.) (p. 182)
- Animation and Interactivity Minor (p. 185)
- Art and Archaeology of the Ancient Mediterranean World Minor (p. 185)
- Art History Minor (p. 185)
- Art Minor (p. 185)
- Blacksmithing Minor (p. 186)
- Design Minor (p. 186)
- Digital Art and Photography Minor (p. 186)
- Painting and Drawing Minor (p. 187)
- Printmaking Minor (p. 187)
- Sculpture Minor (p. 187)
- Textile Design Minor (p. 188)

Art (B.A.)

The James Pearson Duffy Department of Art and Art History is dedicated to the understanding, production and presentation of works of art in all media. It seeks to explore and develop visual literacy as well as technical, critical and conceptual skills. The curriculum combines history, theory, practice and technology with interdisciplinary learning that aims to nurture a balance between technical proficiency, experimentation with new ideas and studying the visual arts as a means of understanding the intellectual and cultural history of humanity.

Admission Requirements

Admission Requirements for this program are satisfied by the general requirements for undergraduate admission (p. 22) to the University.

Candidates for the Bachelor of Arts in Art must complete a minimum of 120 credits including satisfaction of the University (p. 34) General Education requirements and a minimum of forty-eight credits in art courses, including the Course Requirements Sections A, B, and C as cited below. No grade lower than a 'C-' in a major course may be applied toward the completion of the degree. All course work must be completed in accordance with the regulations of the University (p. 11) and the College (p. 173) governing undergraduate scholarship and degrees.

Major Requirements

48 credits total – courses in sections A, B, and C

Code	Title	Credits
Section A		
ACO 1200	Surface Studio	3
ACO 1230	Space Studio	3
ACO 1270	Time Studio	3
ADR 1050	Drawing I	3
Section B		

Select two of the following:		6
AH 1110	Survey of Art History: Ancient through Medieval	
AH 1120	Survey of Art History: Renaissance through Modern	
AH 1130	Encounters with the Arts of Global Africa	
Section C		
ACS 5997	Senior Seminar in the Visual Arts	3
ADR 2070	Beginning Life Drawing	3
APA 2000	Oil Painting I	3
ASL 2150	Beginning Sculpture	3
APH 2400	Introduction to Photography	3
or APR 2300	Printmaking	
Two Art History electives (AH 3000-level or above)		6
PHI 3700	Philosophy of Art	3
Select one of the following:		3
ACR 2550	Ceramics and Pottery Design I	
AFI 2650	Beginning Weaving	
or AFI 2660	Introduction to Fabric Printing and Dyeing	
AME 2600	Introduction to Jewelry and Metalsmithing	
Art Elective (ACO, ACR, ADA, ADN, ADR, AFA, AFI, AGD, AH, AIA, AID, AME, APA, APR, ASL)		3
Total Credits		48

Art Honors Curriculum (B.F.A. and B.A. Programs)

(15 Credits required)

Code	Title	Credits
Honors Option		
Select two of the following:		6
ACR 3550	Beginning Ceramics	
AFA 2410	Textiles	
AFA 2420	Fashion Design: Basic Construction	
AFA 3400	Clothing and Culture	
AFI 2650	Beginning Weaving	
AFI 2660	Introduction to Fabric Printing and Dyeing	
AME 2600	Introduction to Jewelry and Metalsmithing	
APA 2000	Oil Painting I	
APA 3000	Oil Painting II	
APA 4000	Oil Painting III	
APH 2400	Introduction to Photography	
APR 2300	Printmaking	
ASL 2150	Beginning Sculpture	
ASL 3150	Intermediate Sculpture	
Required Courses		
Honors option of an advanced studio elective		3
Honors project in Studio Art, Directed Project course (e.g. ADR 5800)		3
One honors seminar from among HON 4200 through HON 4280		3
Total Credits		15

Art (B.F.A.)

The James Pearson Duffy Department of Art and Art History is dedicated to the understanding, production and presentation of works of art in all media. It seeks to explore and develop visual literacy as well as technical, critical and conceptual skills. The curriculum combines history, theory, practice and technology with interdisciplinary learning that aims to nurture a balance between technical proficiency, experimentation with new ideas and studying the visual arts as a means of understanding the intellectual and cultural history of humanity.

Admission Requirements

Admission Requirements for this program are satisfied by the general requirements for undergraduate admission (p. 22) to the University.

Candidates for the Bachelor of Fine Arts degree must complete a minimum of 120 credits including satisfaction of the University General Education requirements (p. 34). Departmental requirements as cited under the Bachelor of Arts with a Major in Art (p. 178) must be met, as well as the concentration requirements below. All course work must be completed in accordance with the regulations of the University (p. 11) and the College (p. 173) governing undergraduate scholarship and degrees.

Major Requirements

Students pursuing a B.F.A. in Art must complete courses listed in sections A, B, and C and all courses listed under a selected concentration.

Code	Title	Credits
Section A		
ACO 1200	Surface Studio	3
ACO 1230	Space Studio	3
ACO 1270	Time Studio	3
ADR 1050	Drawing I	3
Section B		
Select two of the following:		6
AH 1110	Survey of Art History: Ancient through Medieval	
AH 1120	Survey of Art History: Renaissance through Modern	
AH 1130	Encounters with the Arts of Global Africa	
Section C		
ACS 5997	Senior Seminar in the Visual Arts	3
ADR 2070	Beginning Life Drawing	3
APA 2000	Oil Painting I	3
ASL 2150	Beginning Sculpture	3
PHI 3700	Philosophy of Art	3
Two Art History electives (AH 3000 level or above)		6
Total Credits		39

Concentration Requirements

Students must complete thirty to thirty-three credits (depending on the concentration selected) in art courses, eighteen of which must be at the advanced level (from courses numbered 3000 and above) within the selected concentration *plus the appropriate senior seminar for the selected concentration.* The minimum grade for each course required in the concentration, which must be taken in the Department of Art and Art History, must be no less than a C- in order for the course credit to count toward completion of the degree. Curriculum outlines with suggested scheduling patterns for the below concentrations are available from the Department of Art and Art History (http://www.art.wayne.edu). All work within the following Concentration Requirements (30-33 credit hours) must be completed in addition to the courses from the Major Requirements (39 credit hours). Required courses in each concentration for the B.F.A. with a major in Art are given below; exceptions may be made only with the consent of advisor.

Ceramics

Code	Title	Credits
APH 2400	Introduction to Photography	3
or APR 2300	Printmaking	
AFI 2650	Beginning Weaving	3
or AFI 2660	Introduction to Fabric Printing and Dyeing	
AME 2600	Introduction to Jewelry and Metalsmithing	3
Concentration courses		
ACR 3550	Beginning Ceramics [1]	3
ACR 4000	Ceramics: Wheel Throwing	3
ACR 4001	Handbuilding	3
ACR 4550	Intermediate Ceramics	3
ACR 5550 Advanced Ceramics should be repeated for minimum of 12 credit hours		12
Total Credits		33

Digital Arts

Code	Title	Credits
APH 2400	Introduction to Photography	3
APR 2300	Printmaking	3
Select one of the following:		3
ACR 3550	Beginning Ceramics	
AFI 2650	Beginning Weaving	
or AFI 2660	Introduction to Fabric Printing and Dyeing	
AME 2600	Introduction to Jewelry and Metalsmithing	
Concentration courses		
ADA 2210	Introduction to Digital Practices	3
ADA 2220	Time-Based Media I: Video Art	3
ADA 3220	Introduction to Interactivity in Graphic Arts	3
ADA 4220	Time-Based Media II: Experimental Animation	3
ADA 4230	Time-Based Media III: Experimental 3D Animation	3
ADA 6230	Advanced Projects in Digital Arts	3
ADA 6250	Advanced Time-Based Media	3
Total Credits		30

Drawing

Code	Title	Credits
APH 2400	Introduction to Photography	3
APR 2300	Printmaking	3
Select from the following:		3
ACR 3550	Beginning Ceramics	
AFI 2650	Beginning Weaving	
or AFI 2660	Introduction to Fabric Printing and Dyeing	
AME 2600	Introduction to Jewelry and Metalsmithing	
Concentration courses		
ADR 3070	Intermediate Life Drawing	3
ADR 5060	Advanced Concepts in Drawing and Painting	3
ADR 5080	Landscape Drawing	3
ADR 5000-level Drawing courses		12
ADR 5100	Contexts of Studio Practice	3
Total Credits		33

Fibers

Code	Title	Credits
APH 2400	Introduction to Photography	3
or APR 2300	Printmaking	
ACR 3550	Beginning Ceramics	3
AME 2600	Introduction to Jewelry and Metalsmithing	3
Concentration courses		
AFI 2650	Beginning Weaving	3
AFI 2660	Introduction to Fabric Printing and Dyeing	3
AFI 3650	Intermediate Weaving and Fiber Arts	3
or AFI 3660	Intermediate Fibers: Printing and Dyeing	
AFI 5000-level courses (Junior year)		9
AFI 5000-level courses (Senior year)		6
Total Credits		33

Metalsmithing

Code	Title	Credits
APH 2400	Introduction to Photography	3
or APR 2300	Printmaking	
ACR 3550	Beginning Ceramics	3
AFI 2650	Beginning Weaving	3
or AFI 2660	Introduction to Fabric Printing and Dyeing	
Concentration courses		
AME 2600	Introduction to Jewelry and Metalsmithing	3
AME 3600	Intermediate Jewelry I	3
AME 3601	Intermediate Jewelry II	3
AME 4600	Metalsmithing I	3
AME 4601	Metalsmithing II	3
AME 5600 Advanced Jewelry and Metalsmithing (to be taken twice)		6
Metalsmithing elective (5000-level AME course)		3
Total Credits		33

Painting

Code	Title	Credits
APH 2400	Introduction to Photography	3
or APR 2300	Printmaking	
Select from the following:		3
ACR 3550	Beginning Ceramics	
AFI 2650	Beginning Weaving	
or AFI 2660	Introduction to Fabric Printing and Dyeing	
AME 2600	Introduction to Jewelry and Metalsmithing	
Concentration courses		
APA 2110	Watercolor Painting I	3
APA 3000	Oil Painting II	3
APA 3130	Figure Painting: Water Media	3
or APA 3140	Figure Painting: Oil and Other Media	
APA 2130	Introduction to Alternative Painting Media (Or 3000-level Painting Elective)	3
APA 5060	Advanced Concepts in Drawing and Painting	3
APA 5080	Landscape Painting	3
APA 5100	Contexts of Studio Practice	3
Painting Electives (5000-level APA courses)		3
Total Credits		30

Photography

Code	Title	Credits
APR 2300	Printmaking	3
Select from the following:		3
ACR 3550	Beginning Ceramics	
AFI 2650	Beginning Weaving	
or AFI 2660	Introduction to Fabric Printing and Dyeing	
AME 2600	Introduction to Jewelry and Metalsmithing	
Concentration courses		
APH 2400	Introduction to Photography	3
APH 2410	Black and White Darkroom Photography I	3
APH 2420	Digital Photography I	3
APH 3410	Black and White Darkroom Photography II	3
APH 3420	Digital Photography II	3
APH 4410	Advanced Photography	3
APH 4420	View Camera	3
APH (4000-level Photography Elective)		3
APH (5000-level Photography Elective)		3
Total Credits		33

Printmaking

Code	Title	Credits
APH 2400	Introduction to Photography	3
Select from the following:		3
ACR 3550	Beginning Ceramics	
AFI 2650	Beginning Weaving	
or AFI 2660	Introduction to Fabric Printing and Dyeing	
AME 2600	Introduction to Jewelry and Metalsmithing	
Concentration courses		
APR (2000-level printmaking course)		3
APR (3000-level printmaking course)		9
APR (3000-level printmaking course)		3
APR (5000-level printmaking course)		12
Total Credits		33

Sculpture

Code	Title	Credits
APH 2400	Introduction to Photography	3
or APR 2300	Printmaking	
ACR 3550	Beginning Ceramics	3
AFI 2650	Beginning Weaving	3
or AFI 2660	Introduction to Fabric Printing and Dyeing	
AME 2600	Introduction to Jewelry and Metalsmithing	3
Concentration courses		
ASL 3150	Intermediate Sculpture	3
ASL 3170	Figurative Sculpture I	3
ASL 3190	Sculpture Foundry I	3
ASL 5150	Advanced Sculpture	3
ASL 5170	Figurative Sculpture II	3
ASL 5190	Sculpture Foundry II	3
ASL 5810	Special Topics in Sculpture (or other ASL 5000-level elective)	3
or ASL 5820	Directed Projects	
Total Credits		33

Art Honors Curriculum (B.F.A. and B.A. Programs)

(15 Credits required)

Code	Title	Credits
Honors Option		
Select two of the following:		6
ACR 3550	Beginning Ceramics	
AFA 2410	Textiles	
AFA 2420	Fashion Design: Basic Construction	
AFA 3400	Clothing and Culture	
AFI 2650	Beginning Weaving	
AFI 2660	Introduction to Fabric Printing and Dyeing	
AME 2600	Introduction to Jewelry and Metalsmithing	
APA 2000	Oil Painting I	
APA 3000	Oil Painting II	
APA 4000	Oil Painting III	
APH 2400	Introduction to Photography	
APR 2300	Printmaking	
ASL 2150	Beginning Sculpture	
ASL 3150	Intermediate Sculpture	
Required Courses		
Honors option of an advanced studio elective		3
Honors project in Studio Art, Directed Project course (e.g. ADR 5800)		3
One honors seminar from among HON 4200 through HON 4280		3
Total Credits		15

Art History (B.A.)

The James Pearson Duffy Department of Art and Art History is dedicated to the understanding, production and presentation of works of art in all media. It seeks to explore and develop visual literacy as well as technical, critical and conceptual skills. The curriculum combines history, theory, practice and technology with interdisciplinary learning that aims to nurture a balance between technical proficiency, experimentation with new ideas and studying the visual arts as a means of understanding the intellectual and cultural history of humanity.

Admissions Requirements

Admission Requirements for this program are satisfied by the general requirements for undergraduate admission (p. 22) to the University.

Candidates must complete a minimum of 120 credit hours, including satisfaction of the University General Education Requirements (p. 34) and the major requirements listed below. All course work must be completed in accordance with the regulations of the University (p. 11) and the College (p. 173) governing undergraduate scholarship and degrees.

Major Requirements

Students must complete a minimum of thirty-three credit hours in art history and an additional eight credit hours in a language, which includes the courses below:

Code	Title	Credits
Select two of the following:		6
AH 1110	Survey of Art History: Ancient through Medieval	
AH 1120	Survey of Art History: Renaissance through Modern	
AH 1130	Encounters with the Arts of Global Africa	

Language Requirement - two courses in the same language; any language other than English		
Language 1010		4
Language 1020		4
Upper Level Art History Courses		
Select twelve credits at the 3000-level or above		12
Select three credit hours at the 5000-level or above		3
AH 5993	Writing Intensive Course in Fine Arts (This course must be taken in conjunction with a 5000-level Art History course.)	0
Select one course from EACH of the following groups of upper-level categories:		
Classical		3
AH 5210	Hellenistic Art	
AH 5250	Ancient Rome	
AH 5260	Classical Greek Art	
AH 5270	Roman Painting and Sculpture	
AH 5310	The Ancient City of Athens	
Renaissance/Baroque		3
AH 5500	Early Renaissance in Italy	
AH 5510	High Renaissance and Mannerism in Italy	
Modern		3
AH 5710	Trends in Nineteenth Century Art	
AH 5715	Modernism: Nineteenth and Twentieth Centuries	
AH 5720	Twentieth Century Art	
AH 5780	Topics in Twentieth-Century Art	
African		3
AH 5560	Special Topics	
Total Credits		41

Each course in the major must be completed with a minimum grade of 'C-.' In addition to the credits in art history, students are required to complete three semesters of a single foreign language, with minimum grades of C. Please note that many graduate programs in Art History across the nation require a minimum of 4 semesters of either French or German Language, therefore French or German are the encouraged languages in this field.

Art History Honors Curriculum (B.A. Program)

(15 credits required)

Code	Title	Credits
Honors Option		
Select the Honors option in three of the following:		9
AH 3240	Mythology in Greek Art	
AH 3750	African American Art	
AH 5210	Hellenistic Art	
AH 5250	Ancient Rome	
AH 5260	Classical Greek Art	
AH 5270	Roman Painting and Sculpture	
AH 5310	The Ancient City of Athens	
AH 5450	Art and Architecture in the High Middle Ages	
AH 5500	Early Renaissance in Italy	
AH 5510	High Renaissance and Mannerism in Italy	
AH 5520	Art of Renaissance Venice	
AH 5715	Modernism: Nineteenth and Twentieth Centuries	
AH 5780	Topics in Twentieth-Century Art	
Required Courses		
AH 5990	Directed Study	3
One honors seminar chosen from: HON 4200 through HON 4280		3
Total Credits		15

Design (B.F.A.)

The James Pearson Duffy Department of Art and Art History is dedicated to the understanding, production and presentation of works of art in all media. It seeks to explore and develop visual literacy as well as technical, critical and conceptual skills. The curriculum combines history, theory, practice and technology with interdisciplinary learning that aims to nurture a balance between technical proficiency, experimentation with new ideas and studying the visual arts as a means of understanding the intellectual and cultural history of humanity.

Admission Requirements

Admission Requirements for this program are satisfied by the general requirements for undergraduate admission (p. 22) to the University.

Candidates for the Bachelor of Fine Arts degree with a major in Design must complete a minimum of 120 credits including satisfaction of the University General Education requirements (p. 34), the Departmental and the Concentration (p.) requirements. All course work must be completed in accordance with the regulations of the University (p. 11) and the College (p. 173) governing undergraduate scholarship and degrees.

Major Requirements

24 credits total – courses in sections A, B, and C in addition to the courses in your selected concentration.

Code	Title	Credits
SECTION A		
ADR 1050	Drawing I	3
ACO 1200	Surface Studio	3
ACO 1230	Space Studio	3
ACO 1270	Time Studio	3
SECTION B		
Select two of the following:		6
AH 1110	Survey of Art History: Ancient through Medieval	
AH 1120	Survey of Art History: Renaissance through Modern	
AH 1130	Encounters with the Arts of Global Africa	
SECTION C		
ADN 3100	Design Process	3
Art or Design History Course 3000-level or above		3
Total Credits		24

Concentration Requirements

Students must complete forty-four to forty-five credit hours (depending on the concentration selected) in design courses, eighteen of which must be at the advanced level (from courses numbered 3000 and above) within the selected concentration *plus the appropriate senior seminar for the selected concentration.* The minimum grade for each course required in the concentration, which must be taken in the Department of Art and Art History, must be no less than a C- in order for the course credit to count toward completion of the degree. Curriculum outlines with suggested scheduling patterns for the below concentrations are available from

the Department of Art and Art History (http://www.art.wayne.edu). All work within the following Concentration Requirements (44-45 credit hours) must be completed in addition to the courses from the Major Requirements (24 credit hours). Required courses in each concentration for the B.F.A. with a major in Design are given below; exceptions may be made only with the consent of advisor.

Fashion Design

Code	Title	Credits
AFI 2650	Beginning Weaving	3
AFI 2660	Introduction to Fabric Printing and Dyeing	3
AFA 2410	Textiles	3
AFA 2420	Fashion Design: Basic Construction	3
AFA 3420	Fashion Design: Advanced Construction	3
AFA 3400	Clothing and Culture	3
AFA 3410	Textile Performance Analysis	3
AFA 3460	Introduction to Merchandising	3
AFA 4430	Fashion Illustration	3
AFA 5422	Fashion Design: Flat Pattern	3
AFA 5430	History of Costume	3
AFA 5442	Fashion Design: Draping	3
AFA 5452	Fashion Design: Tailoring	3
AFA 5997	Seminar	3
AFA 6440	Computer-Aided Design for Apparel Design	3
Total Credits		45

Graphic Design

Code	Title	Credits
AGD 2230	Introduction to Typography: Skills and Concepts	3
AGD 2240	Introduction to Graphic Design: Skills and Concepts	3
AGD 2250	Typography	3
AGD 3250	Graphic Design I: Principles and Problem Solving	3
AGD 3260	Introduction to Interactivity in Graphic Arts	3
AGD 3700	History of Graphic Design	3
AGD 4250	Graphic Design II: Word, Image, and Visual Organization	3
AGD 5260	Senior Seminar	3
AGD 5997	Senior Studio	3
Two Graphic Design (AGD) electives 5000-level or above		6
Three Art or Design studio electives [1]		9
One Art or Design studio elective, chosen from the following subject areas: AGD, ADA or APR		3
Total Credits		45

[1] May be chosen from the following subject areas: ACO, ACR, ACS, ADA, ADN, ADR, AFA, AFI, AGD, AIA, AID, AME, APA, APH, APR or ASL.

Industrial Design

Code	Title	Credits
AID 3200	Ethnographic Research Methods for Designers	3
AID 3300	Introduction to Industrial Design	3
AID 3310	Presentation	3
AID 5300 Advanced Studio/Product should be retaken to accrue a minimum of 6 credit hours.		6
AID 5310 Advanced Presentation should be retaken to accrue a minimum of 6 credit hours.		6
AID 5330 3-D Modeling should be retaken to accrue a minimum of 6 credit hours.		6
AID 5997	Senior Seminar	3
AID 6310	Advanced Studio/Exhibit	3
AID 6300	Advanced Studio: Transportation	3
ADN 6320	History of Modern Design I	3
Two Art or Design studio electives [1]		6
Total Credits		45

[1] May be chosen from the following subject areas: ACO, ACR, ACS, ADA, ADN, ADR, AFA, AFI, AGD, AIA, AME, APA, APH, APR or ASL.

Interior Design

Code	Title	Credits
AIA 2600	Interior Design: CAD I	3
AIA 2610	Interior Design Studio I	3
AIA 3610	Interior Design Studio II	3
AIA 3620	Interior Design: CAD II	3
AIA 4610	Interior Design Studio III	3
AIA 5610	Interior Materials and Systems	3
AIA 5620	Building Construction Systems in Architecture I	3
AIA 5630	Interior Lighting Design and Application	3
AIA 5640	Building Construction Systems in Architecture II	3
AIA 5997	Senior Seminar	3
AIA 6610	Interior Design Studio IV	3
AIA 6650	Business Practicum	2
ADN 6320	History of Modern Design I	3
Two Art or Design studio electives [1]		6
Total Credits		44

[1] May be chosen from the following subject areas: ACO, ACR, ACS, ADA, ADN, ADR, AFA, AFI, AGD, AIA, AID, AME, APA, APH, APR or ASL.

Design and Merchandising (B.A.)

Curricula in this area provide a liberal education as well as the opportunity for a professional concentration in the fields of apparel design and fashion merchandising.

Admission Requirements

Admission Requirements for this program are satisfied by the general requirements for undergraduate admission (p. 22) to the University.

Candidates must complete a minimum of 120 credits including satisfaction of the University General Education requirements (p. 34) and all departmental and area requirements as indicated below. A minimum grade of C- must be earned in each required course in the major in order for the course credit to count toward completion of the degree. All course work must be completed in accordance with the regulations of the University (p. 11) and the College (p. 173) governing undergraduate scholarship and degrees.

Major Requirements

Code	Title	Credits
Core Requirements		
AFA 2410	Textiles	3
AFA 2420	Fashion Design: Basic Construction	3
AFA 3400	Clothing and Culture	3
AFA 3460	Introduction to Merchandising	3

AFA 5430	History of Costume	3
AFA 5997	Seminar	3
Language Requirement: two courses of the same language; any language other than English		
Language 1010		4
Language 1020		4
Total Credits		26

Apparel Design Concentration

Successful completion of this concentration enables students interested in creative aspects of clothing to develop competencies needed for careers in apparel design and related fields. Possible careers include designing, product development, and other related fields of the apparel industry.

Code	Title	Credits
Apparel Design Option Requirements		
AFA 3410	Textile Performance Analysis	3
AFA 4430	Fashion Illustration	3
AFA 5422	Fashion Design: Flat Pattern	3
AFA 5442	Fashion Design: Draping	3
AFA 5452	Fashion Design: Tailoring	3
Cognate Requirements		
ACO 1200	Surface Studio	3
or ACO 1230	Space Studio	
AFI 2650	Beginning Weaving	3
AFI 2660	Introduction to Fabric Printing and Dyeing	3
ADR 1050	Drawing I	3
Six credit hours of art electives (ACR, ADA, ADR, AFI, AME, APA, APR, APH, ASL)		6
Total Credits		33

Fashion Merchandising Concentration

This concentration develops understanding and practical skills related to the planning, buying and selling of fashion merchandise. Students gain insights into the various aspects of the apparel industries including marketing, sales, styling, publicity, advertising, visual presentation, fashion coordination, and merchandising. Possible careers include positions in management, buying, and fashion promotion and sales.

Code	Title	Credits
Fashion Merchandising Option Requirements		
AFA 3470	Merchandise Information	3
AFA 5460	Merchandising II	3
AFA 5470	Visual Merchandising: Display	3
AFA 5490	Economics of Merchandising	3
AFA 5992	Supervised Field Experience	3
Cognate Requirements		
MKT 2300	Marketing Management	3
MKT 5700	Retail Management	3
9 credit hours of Business electives from the following areas: Accounting (ACC); Business Administration (BA); Finance (FIN); Global Supply Chain (GSC); Marketing (MKT); Management (MAN)		9
Total Credits		30

Design and Merchandising (B.S.)

Curricula in this area provide a liberal education as well as the opportunity for a professional concentration in the fields of apparel design and fashion merchandising.

Admission Requirements

Admission Requirements for this program are satisfied by the general requirements for undergraduate admission (p. 22) to the University.

Candidates must complete a minimum of 120 credits including satisfaction of the University General Education requirements (p. 34) and all departmental and area requirements as indicated below. A minimum grade of C- must be earned in each required course in the major in order for the course credit to count toward completion of the degree. All course work must be completed in accordance with the regulations of the University (p. 11) and the College (p. 173) governing undergraduate scholarship and degrees.

Students pursuing the *Bachelor of Science Degree* with a Major in Design and Merchandising must complete a minimum of fifteen credits in Natural Science courses. Science courses can be taken in the following subjects areas: Astronomy, Biology, Chemistry, Geology, Nutrition and Food Science, or Psychology. This course selection should be done in consultation with a departmental advisor.

Major Requirements

Code	Title	Credits
Core Requirements		
AFA 2410	Textiles	3
AFA 2420	Fashion Design: Basic Construction	3
AFA 3400	Clothing and Culture	3
AFA 3460	Introduction to Merchandising	3
AFA 5430	History of Costume	3
AFA 5997	Seminar	3
Total Credits		18

Apparel Design Concentration

Successful completion of this concentration enables students interested in creative aspects of clothing to develop competencies needed for careers in apparel design and related fields. Possible careers include designing, product development, and other related fields of the apparel industry.

Code	Title	Credits
Core Requirements		
AFA 3410	Textile Performance Analysis	3
AFA 4430	Fashion Illustration	3
AFA 5422	Fashion Design: Flat Pattern	3
AFA 5442	Fashion Design: Draping	3
AFA 5452	Fashion Design: Tailoring	3
Cognate Requirements		
ACO 1200	Surface Studio	3
or ACO 1230	Space Studio	
AFI 2650	Beginning Weaving	3
AFI 2660	Introduction to Fabric Printing and Dyeing	3
ADR 1050	Drawing I	3

Six credit hours of art electives (ACR, ADA, ADR, AFI, AME, APA, APR, APH, ASL)	6
Total Credits	33

Fashion Merchandising Concentration

This concentration develops understanding and practical skills related to the planning, buying and selling of fashion merchandise. Students gain insights into the various aspects of the apparel industries including marketing, sales, styling, publicity, advertising, visual presentation, fashion coordination, and merchandising. Possible careers include positions in management, buying, and fashion promotion and sales.

Code	Title	Credits
Core Requirements		
AFA 3470	Merchandise Information	3
AFA 5460	Merchandising II	3
AFA 5470	Visual Merchandising: Display	3
AFA 5490	Economics of Merchandising	3
AFA 5992	Supervised Field Experience	3
Cognate Requirements		
MKT 2300	Marketing Management	3
MKT 5700	Retail Management	3
9 credit hours of Business electives from the following areas: Accounting (ACC); Business Administration (BA); Finance (FIN); Global Supply Chain (GSC); Marketing (MKT); Management (MAN)		9
Total Credits		30

Animation and Interactivity Minor

This minor provides a thorough focus on the study of Animation and Interactivity through the lens of New Media developments in Contemporary Arts. Explore the topics through a fine arts perspective; research and develop ideas as creative producers; foster innovative and critical thinking within digital media.

Students must complete 21 credits as specified below:

Code	Title	Credits
Select one of the following:		3
AH 1000	Introduction to Art	
AH 1110	Survey of Art History: Ancient through Medieval	
AH 1120	Survey of Art History: Renaissance through Modern	
AH 1130	Encounters with the Arts of Global Africa	
Required courses:		
ACO 1270	Time Studio	3
ADA 2210	Introduction to Digital Practices	3
ADA 3220	Introduction to Interactivity in Graphic Arts	3
ADA 4220	Time-Based Media II: Experimental Animation	3
ADA 4230	Time-Based Media III: Experimental 3D Animation	3
ADA 4240	Advanced Interactivity: Experimental Video Games	3
Total Credits		21

All courses in the minor must be completed with the grade of C- or higher.

Art and Archaeology of the Ancient Mediterranean World Minor

This minor offers students the opportunity to study the enormous impact of ancient Egypt, Greece and Rome have had on later Western Culture.

Courses in art history and archaeology of antiquity provide a broad exposure to the formats of the material (sculpture, painting, architecture, etc.).

Students must complete 15 credits as specified below:

Code	Title	Credits
Required course		
AH 1110	Survey of Art History: Ancient through Medieval	3
Elective courses - choose four		12
AH 3070	Art and Archeology of Ancient Egypt	
AH 3240	Mythology in Greek Art	
AH 5210	Hellenistic Art	
AH 5250	Ancient Rome	
AH 5260	Classical Greek Art	
AH 5270	Roman Painting and Sculpture	
AH 5310	The Ancient City of Athens	
Total Credits		15

All courses in the minor must be completed with the grade of C- or higher

Art History Minor

Study art as the human visual and physical record. Investigate the time and circumstances in which works of art were created as a way to understand their cultural meaning and significance.

Students must complete 15 credits in art history courses, including:

Code	Title	Credits
Select one of the following:		3
AH 1110	Survey of Art History: Ancient through Medieval	
AH 1120	Survey of Art History: Renaissance through Modern	
AH 1130	Encounters with the Arts of Global Africa	
Select twelve credits at the 2000 level or above		12
Total Credits		15

All courses in the minor must be completed with the grade of C- or higher.

Art Minor

This minor broadens understanding of artistic expression from the past to the present. Learn fundamental concepts and then apply them in a studio setting. Fine Art electives may be taken from any of the nine Fine Art areas: Ceramics, Digital Art, Drawing, Fibers, Metalsmithing, Painting, Photography, Printmaking or Sculpture.

Students must complete 21 credits as specified below:

Code	Title	Credits
ADR 1050	Drawing I	3
ACO 1200	Surface Studio	3
or ACO 1230	Space Studio	
Select one of the following:		3
AH 1110	Survey of Art History: Ancient through Medieval	
AH 1120	Survey of Art History: Renaissance through Modern	
AH 1130	Encounters with the Arts of Global Africa	
Select four studio electives		12
Total Credits		21

All courses in the minor must be completed with the grade of C- or higher.

Blacksmithing Minor

The Blacksmithing minor is intended for students who wish to hone their critical thinking and creative problem solving by using a variety of blacksmithing skills including handwork, machining and digital fabrication to refine their ability to produce artwork, commissions and utilitarian tools. With a minor offering such as Blacksmithing, students in art, design, physics, engineering, education and other interested majors will be able to have a "physical" material application to apply to their field and creative/research projects.

Students pursuing a Blacksmithing minor must complete the following courses from the list below totaling 21 credits.

Code	Title	Credits
Select one of the following:		3
ADR 1050	Drawing I	
ACO 1200	Surface Studio	
ACO 1230	Space Studio	
ACO 1270	Time Studio	
Select one of the following:		3
AH 1110	Survey of Art History: Ancient through Medieval	
AH 1120	Survey of Art History: Renaissance through Modern	
AH 1130	Encounters with the Arts of Global Africa	
ADN 6320	History of Modern Design I	
Art: Metalsmithing (AME) Requirements:		12
AME 2600	Introduction to Jewelry and Metalsmithing	
AME 2650	Blacksmithing I	
AME 3650	Blacksmithing II	
AME 4650	Blacksmithing III	
Elective:		3
Complete a 2000 level Studio Art course from the Fine Art areas: ACR, ADA, AFI, ADR, APA, APR, APH or ASL. (p.)		
Total Credits		21

Design Minor

This minor offers students the opportunity to learn fundamental visual concepts in design and apply these in a studio setting. The minor also broadens understanding of creative expression from the past to the present.

Students must complete 21 credits as specified below:

Code	Title	Credits
ADR 1050	Drawing I	3
ACO 1200	Surface Studio	3
Select one course from the following:		3
ACO 1230	Space Studio	
ACO 1270	Time Studio	
ADN 3100	Design Process	
Art and Design History - choose one		3
AH 1110	Survey of Art History: Ancient through Medieval	
AH 1120	Survey of Art History: Renaissance through Modern	
AH 1130	Encounters with the Arts of Global Africa	
AFA 5430	History of Costume	
ADN 6320	History of Modern Design I	
ADN 6330	History of Modern Design II	
Design Studio Electives - select from the following courses: [1]		9
Fashion		
AFA 2410	Textiles	
AFA 2420	Fashion Design: Basic Construction	
AFA 3400	Clothing and Culture	
AFA 3410	Textile Performance Analysis	
AFA 3420	Fashion Design: Advanced Construction	
AFA 3460	Introduction to Merchandising	
AFA 3470	Merchandise Information	
AFA 4430	Fashion Illustration	
Graphic Design		
AGD 2240	Introduction to Graphic Design: Skills and Concepts	
AGD 2250	Typography	
AGD 3250	Graphic Design I: Principles and Problem Solving	
AGD 3260	Introduction to Interactivity in Graphic Arts	
AGD 4250	Graphic Design II: Word, Image, and Visual Organization	
Industrial Design		
AID 3200	Ethnographic Research Methods for Designers	
AID 3300	Introduction to Industrial Design	
AID 3310	Presentation	
AID 4300	Product Design Engineering	
AID 4600	Transportation Design/Engineering	
Interior Design		
AIA 1610	Architectural Drafting and Perspective Drawing	
AIA 2600	Interior Design: CAD I	
AIA 2610	Interior Design Studio I	
AIA 3610	Interior Design Studio II	
AIA 3620	Interior Design: CAD II	
AIA 4600	Environmental Design Theory	
AIA 4610	Interior Design Studio III	
AIA 4620	Interior Perspective and Illustration	
Total Credits		21

[1] Choose design studio electives in discussion with your art advisor.

Digital Art and Photography Minor

This minor offers students the opportunity to supplement their major field of study with a rigorous investigation of digital art and photography. The program will provide a rich academic environment that will foster creativity and spur innovative thinking. The three required courses provide students with a deep understanding of the production of visual language in video, photography, and other time-based methods. From this dynamic foundation, they will choose a line of study to more thoroughly investigate advanced photography techniques, interactive art, or 2D/3D animation in a fine arts context.

Students must complete 18 credits as specified below:

Code	Title	Credits
Required courses		9
ACO 1270	Time Studio	
ADA 2220	Time-Based Media I: Video Art	
APH 2400	Introduction to Photography	

Art History - choose one		3
AH 1000	Introduction to Art	
AH 1110	Survey of Art History: Ancient through Medieval	
AH 1120	Survey of Art History: Renaissance through Modern	
AH 1130	Encounters with the Arts of Global Africa	
Studio Electives - choose two		6
ADA 2210	Introduction to Digital Practices	
ADA 3220	Introduction to Interactivity in Graphic Arts	
ADA 4220	Time-Based Media II: Experimental Animation	
ADA 4230	Time-Based Media III: Experimental 3D Animation	
ADA 4240	Advanced Interactivity: Experimental Video Games	
ADA 6250	Advanced Time-Based Media	
APH 2410	Black and White Darkroom Photography I	
APH 2420	Digital Photography I	
APH 3410	Black and White Darkroom Photography II	
APH 3420	Digital Photography II	
APH 4410	Advanced Photography	
APH 4420	View Camera	
Total Credits		18

All courses in the minor must be completed with the grade of C- or higher.

Painting and Drawing Minor

This minor provides students the opportunity to supplement their major field of study with an exploration of the media, techniques, and concerns of contemporary painting and drawing. The wide array of courses allows students to follow individualized paths through the curriculum, whether their interests lay in working from live models, in the landscape, with non-objective imagery, or either alternative or traditional media in both painting and drawing. The breadth of the Painting and Drawing program comprises a rich and stimulating environment through which students are invited to express their ideas and stretch their creativity.

The Minor in Painting and Drawing requires 21 credits.

Code	Title	Credits
ACO 1200	Surface Studio	3
ADR 1050	Drawing I	3
AH 1120	Survey of Art History: Renaissance through Modern	3
Select two of the following courses:		6
ADR 2070	Beginning Life Drawing	
ADR 2130	Introduction to Alternative Drawing Methods and Materials	
APA 2000	Oil Painting I	
APA 2110	Watercolor Painting I	
APA 2130	Introduction to Alternative Painting Media	
Select two of the following intermediate and advanced courses:		6
ADR 3070	Intermediate Life Drawing	
ADR 5070	Advanced Life Drawing	
ADR 5080	Landscape Drawing	
ADR 5100	Contexts of Studio Practice	
or APA 5100	Contexts of Studio Practice	
ADR 5160	Advanced Alternative Drawing Methods and Materials	
APA 3000	Oil Painting II	
APA 3110	Watercolor Painting II	
APA 4000	Oil Painting III	
APA 5080	Landscape Painting	
APA 5110	Watercolor Painting III	
APA 5160	Advanced Alternative Painting Media	
APA 5200	Advanced Mural Painting	
Total Credits		21

Printmaking Minor

This minor offers students the opportunity to supplement their major field of study to focus on printmaking as a means of visual expression. Students pursuing a Minor in Printmaking must complete 18 credits distributed as follows:

Code	Title	Credits
Select one of the following:		3
ACO 1200	Surface Studio	
ADR 1050	Drawing I	
Select one of the following:		3
AH 1110	Survey of Art History: Ancient through Medieval	
AH 1120	Survey of Art History: Renaissance through Modern	
AH 1130	Encounters with the Arts of Global Africa	
APR 2300	Printmaking	3
Select three of the following:		9
APR 3470	Photo-Processes for Printmaking I	
APR 3480	Intaglio I	
APR 3490	Lithography I	
APR 3500	Screen Printing I	
APR 3510	Relief and Experimental Printmaking I	
APR 5470	Photo-Processes for Printmaking II	
APR 5480	Intaglio II	
APR 5490	Lithography II	
APR 5500	Screen Printing II	
APR 5510	Relief and Experimental Printmaking II	
Total Credits		18

All courses in the minor must be completed with the grade of C- or higher.

Sculpture Minor

This minor provides students the opportunity to supplement their major field of study with an exploration of contemporary sculpture through hands on exposure to the variety of sculptural capacities available at Wayne State: foundry work for bronze and aluminum casting, mold-making and casting for contemporary applications, clay modeling from the figure, steel fabrication and welding, and woodworking.

The Minor in Sculpture requires 18 credits.

Code	Title	Credits
Core		
Select one of the following:		3
ADR 1050	Drawing I	
ACO 1200	Surface Studio	
ACO 1230	Space Studio	
ACO 1270	Time Studio	
Art History		
Select one of the following:		3

AH 1110	Survey of Art History: Ancient through Medieval	
AH 1120	Survey of Art History: Renaissance through Modern	
AH 1130	Encounters with the Arts of Global Africa	
Sculpture Courses		
ASL 2150	Beginning Sculpture	3
Select three of the following:		9
ASL 3150	Intermediate Sculpture	
ASL 3170	Figurative Sculpture I	
ASL 3190	Sculpture Foundry I	
ASL 5150	Advanced Sculpture	
ASL 5170	Figurative Sculpture II	
ASL 5180	Sculpture: Advanced Technology	
ASL 5190	Sculpture Foundry II	
ASL 5810	Special Topics in Sculpture	
Any Art Department Studio Course		
Total Credits		18

Textile Design Minor

This minor offers students the opportunity to learn textile design skills and apply these in a studio/industry setting. The minor provides course options in both print and woven textile design. The minor combines elements of the fibers and fashion programs.

Students must complete 24 credits as specified below:

Code	Title	Credits
Drawing		3
ADR 1050	Drawing I	
Core		3
ACO 1200	Surface Studio	
Graphic Design		3
AGD 2240	Introduction to Graphic Design: Skills and Concepts	
Textile Design		6
AFI 2660	Introduction to Fabric Printing and Dyeing	
AFI 3640	Digital Textile Design	
Design History (select one of the following):		3
AFA 5430	History of Costume	
ADN 6320	History of Modern Design I	
ADN 6330	History of Modern Design II	
Textile Design Studio Electives		6
In discussion with your art advisor, select two studio electives from fibers.		
AFI 2650	Beginning Weaving	
AFI 3650	Intermediate Weaving and Fiber Arts	
AFI 3660	Intermediate Fibers: Printing and Dyeing	
AFI 5650	Weaving: Senior Project	
AFI 5660	Fabric Printing and Dyeing: Senior Project	
Total Credits		24

All courses in the minor must be completed with the grade of C- or higher.

Communication

Office: 585 Manoogian Hall; 313-577-2943
Chairperson: Katheryn Maguire
Academic Services Officer: Victoria Dallas
Undergraduate Advisor: Jessica Greenwald
http://www.comm.wayne.edu

The primary aim of this department is to assist students in developing the ability to communicate effectively and to understand the principles of the communication process. The variety of degree programs provides broad liberal arts education as well as specific career training. Undergraduate and graduate majors may prepare for careers in several fields:industrial relations; sales; personnel; public relations; radio, television, film; journalism; teaching; law; and, the ministry.

The department sponsors several student activities that are available to all University students. These include intercollegiate debate and speech teams. Wayne State University has undergraduate chapters of Lambda Pi Eta, Forensic Union, Delta Sigma Rho-Tau Kappa Alpha, the Film Association, the Society of Professional Journalists and the Public Relations Student Society of America. Talent scholarships are also available to students interested in forensics or debate.

COM 1010 is designed for those who wish to improve their general communicative ability. This course can be taken to fulfill the University's General Education Competency Requirement in Oral Communication (OC). This requirement should be completed within the first 60 credit hours. Courses in persuasive speaking, discussion, debate, interpersonal communication and small group offer additional opportunities to study and practice general communication skills.

- Communication Studies (B.A.) (p. 189)
- Film (B.A.) (p. 190)
- Journalism (B.A.) (p. 191)
- Media Arts and Studies (B.A.) (p. 193)
- Public Relations (B.A.) (p. 194)

Communication Department Minors and Cognate Study

The following minors are available in the department and should be pursued in consultation with an advisor in each of the specialized areas of concentration. Please note that some minors are not available to students who also major in the department. While a minor designation does not appear on the diploma, it will be noted on the student's transcript.

- Film Minor (p. 191)
- Communication Studies Minor (p. 190)
- Health Communication Minor (p. 191)
- Journalism Minor (p. 192)
- Media Arts and Studies Minor (p. 193)
- New Media Minor (p. 194)
- Public Relations Minor (p. 194)

Bachelor of Arts Program Requirements

Department of Communication

At the undergraduate level the Department of Communication offers Bachelor of Arts degrees with majors in:

- Communication Studies
- Film
- Journalism

- Media Arts and Studies
- Public Relations

The following requirements apply to all of these degrees; specific requirements are listed within each major program.

Admission Requirements

Admission requirements are satisfied by the general requirements for undergraduate admission (p. 22) to the University.

Degree Requirements

Candidates for the Bachelor's degree must complete 120 credits of course work including satisfaction of the University General Education requirements, department degree requirements including completion of a foreign language through the third semester or two semesters of foreign language and one semester of foreign culture, as well as the major requirements of one of the programs. All courses in the major or the minor must be completed with a grade of C or better and be completed in accordance with the regulations of the University (p. 25) and the College (http://bulletins.wayne.edu/undergraduate/college-fine-performing-communicaiton-arts/bachelors-requirements-fine-performing-communication-arts) governing undergraduate scholarship and degrees.

A major will complete at least thirty but not more than forty-six credits in the Department. Any course work elected over the forty-six credit maximum must have prior approval of both advisor and chairperson if the additional credits are to count toward the degree (120 credits). This required approval includes students who plan to double major in the Department. Double majors are not allowed in some combined concentrations: Public Relations and Communication Studies, or Public Relations and Journalism. At least twelve credits are required in residence within the major. Students should consult their advisor in selecting a proper distribution of courses.

Foreign Language Requirement

Students will be required to complete two semesters of a single foreign language to fulfill the requirements for a bachelor of arts in communication. Two semesters of American Sign Language will count as fulfilling that requirement.

General Education Requirements

University-wide General Education Requirements are designed to enhance students' basic skills and the diversity of their intellectual background. These requirements assure minimal competence in those skills needed to succeed in college and professional life and provide a selective introduction to the increasingly broad range of academic disciplines represented at the University. They serve to emphasize the fundamental means and essential knowledge required for continuing self-education and intellectual growth. The College adheres to specified timelines for completion of General Education requirements (p. 34).

Some of the courses listed in the University General Education program are also courses required in some majors. With careful course selection, students may satisfy both General Education Requirements and Department Requirements in some majors (and concentrations, where applicable). Students should consult the table in the College introductory section in order to take advantage of these occasions of overlapping requirements.

Writing Intensive (WI) Requirement: The University General Education Program requirement of a writing intensive course in the major may be fulfilled by taking one of the following:

Code	Title	Credits
COM 2230	Broadcast News Writing and Digital Editing (broadcast journalism)	3
COM 3400	Theories of Communication (communication studies)	3
COM 5270	Screenwriting (film)	4
COM 4170	Public Relations Writing (public relations)	3
COM 4100	Feature Writing (journalism)	3
COM 3010	Media Analysis and Criticism (media arts and studies)	3
or COM 4560	Telecommunications Policy: A Political Economy Approach	

The writing intensive course should be taken during the junior year after satisfactory completion of the Intermediate Composition (IC) requirement.

Communication Studies (B.A.)

A major in Communication Studies offers students an opportunity to develop excellent communication skills and a thorough knowledge of the process of human communication. Communication studies majors take a variety of courses in public speaking, interpersonal communication, group communication and communication theory.

Employers in business, government, and education identify excellent communication skills as the most important quality they desire in hiring employees. Communication studies majors find careers in many different fields including business, government, education, law and religion.

The degree of Bachelor of Arts with a major in communication studies is offered in two concentrations - Communication Studies, and Communication Studies Education. In addition to the course work below, students must complete all of the department's general degree requirements (p. 188).

Communication Studies

All majors in this concentration must elect the following core courses:

Code	Title	Credits
COM 1010	Oral Communication: Basic Speech	3
COM 2000	Introduction to Communication Studies	3
COM 2110	Argumentation and Debate	3
COM 3400	Theories of Communication	3
COM 4190	Rhetorical Criticism	3
or COM 4210	Research Methods in Communication	
COM 5900	Senior Project in Communication Studies	3
Select at least six credits from the following 2000/3000-level courses:		6
COM 2160	Campaigns and Social Movements	
COM 2170	Persuasive Speaking	
COM 2200	Interpersonal Communication	
COM 3170	Fundamentals of Public Relations	
COM 3250	Introduction to Organizational Communication	
COM 3300	Business and Professional Presentations	
Select at least six elective credits from the following 4000-level courses:		6
COM 4041	Rhetoric and the Body	
COM 4110	Studies of Legal Argument	
COM 4130	Communication Ethics	
COM 4140	Popular and Celebrity Culture	

COM 4150	Communication and Conflict	
COM 4200	Nonverbal Communication	
COM 4270	Group Communication	
COM 4500	Leadership Communication	
Select at least six elective credits from the following 5000-level courses:		6
COM 5120	Public Address	
COM 5130	Communication and Social Marketing	
COM 5190	Senior Seminar in Communication	
COM 5320	Health Communication	
COM 5330	Rhetoric of Visual Culture	
COM 5360	Gender and Communication	
Total Credits		36

COM 5900 is the senior assessment capstone course and should be taken in the last twenty-one credits of the student's program.

Communication Studies Education

All majors in this concentration must elect the following courses:

Code	Title	Credits
Core Courses		
COM 1010	Oral Communication: Basic Speech	3
COM 2110	Argumentation and Debate	3
COM 2170	Persuasive Speaking	3
COM 2200	Interpersonal Communication	3
COM 3250	Introduction to Organizational Communication	3
COM 3400	Theories of Communication	3
COM 4270	Group Communication	3
COM 5900	Senior Project in Communication Studies	3
COM 6060	Teaching Communication at the Secondary Level	3
COM 6070	Directing Forensics	3
Select one of the following:		3
COM 1600	Introduction to Audio-Television-Film Production	
COM 2160	Campaigns and Social Movements	
COM 4200	Nonverbal Communication	
COM 5360	Gender and Communication	
Total Credits		33

COM 5900 is the senior assessment capstone course and should be taken in the last twenty-one credits of the student's program.

A strong minor (18-24 credits) in the Department of English is recommended. Consult an advisor in the College of Education regarding requirements for the Michigan Teaching Certificate.

Departmental Honors Program

The Communication Department Honors program offers capable students the opportunity to pursue independent study and to work closely with department faculty members. Completion of the honors major results in an honors degree designation on the diploma.

Departmental Honors Requirements

In order to enter the departmental honors program students must have achieved academic excellence in previous work, such as a high school g.p.a. of 3.5 or a college or university g.p.a. of 3.3. Students must meet all regular major requirements including the following: three honors-option courses within their major at the 2000 level or above, taught by full-time faculty members (internships cannot satisfy this requirement), at least one 4000-level seminar offered through the Liberal Arts and Sciences Honors Program, a senior honors thesis under the direction of a faculty advisor in their major area (COM 4996) and maintain a minimum g.p.a. of 3.3 cumulative and in the major.

Communication Studies Minor

A minor in this area requires:

Code	Title	Credits
COM 1010	Oral Communication: Basic Speech	3
COM 2000	Introduction to Communication Studies	3
COM 2110	Argumentation and Debate	3
COM 3400	Theories of Communication	3
Two additional communication studies courses selected in consultation with an advisor		6
Total Credits		18

Film (B.A.)

The major in Film prepares students for careers as film/video makers, professionals and scholars who can create, interpret and critique film as a visual and narrative art form. Students acquire knowledge of film history and film/media theory as they gain training and experience in the art of storytelling through screenwriting, cinematography, sound recording, editing, producing and directing. Students develop skills in the planning, acquisition and management of resources and logistics as they engage in the conceptualization, realization and exhibition of engaging narratives.

Additional work at the graduate level is recommended for some of these careers.

In addition to the course work below, students must complete all of the department's general degree requirements (p. 188).

Major Requirements: The major in Film requires completion of 45-46 credits in coursework as outlined below.

Code	Title	Credits
Required Courses		33
COM 1600	Introduction to Audio-Television-Film Production	
COM 1610	Fundamentals of New Media Production	
COM 2010	Introduction to Film	
COM 2020	History of Film	
COM 2210	Media Writing and Storytelling	
COM 3380	Editing and Field Production	
COM 5270	Screenwriting	
COM 5400	Techniques of Film and Video Production	
COM 5410	Producer's Workshop	
COM 5540	Film Criticism and Theory	
Portfolio Requirement (select one)		3-4
COM 5420	Director's Workshop	
COM 5440	Film, Cinematography and Lighting	
Electives		
Select nine credits of the following:		9
COM 3230	The African-American Film Experience	
COM 5020	Studies in Film History	
COM 5060	Documentary and Non-Fiction Film and Television	
COM 5270	Screenwriting (can be twice for an additional 4 credits)	
COM 5440	Film, Cinematography and Lighting (if not taken as portfolio req.)	
COM 5384	Topics in Production Design and Theory	

COM 5390	Digital Animation	
COM 5420	Director's Workshop	
COM 6190	Internship	
COM 6310	Allesee Lectures in Media (Max. 3)	
COM 6410	Allesee Master Class (Max. 6)	
COM 6680	Directed Projects in Film and Media	
Total Credits		45-46

Note: Students interested in Sound Design may fulfill some elective requirements through the Music Technology program in consultation with their advisor.

Film majors are encouraged to take additional film-related courses, offered throughout the university, toward fulfillment of their undergraduate degree requirements. These include, but are not limited to:

Code	Title	Credits
ADA 4220	Time-Based Media II: Experimental Animation	3
AID 3300	Introduction to Industrial Design	3
APH 2400	Introduction to Photography	3
COM 4310	Audio Production	3
COM 5610	Advanced TV Production	3
ENG 5060	Styles and Genres in Film	4
GER 5350	German Film	3
ITA 5150	Italian Cinema	3
SLA 3710	Russian and East European Film	3-4
SLA 3750	Polish and Yugoslavian Cinema	3
THR 4271	Acting for the Camera	3

Departmental Honors Program

The Communication Department Honors program offers capable students the opportunity to pursue independent study and to work closely with department faculty members. Completion of the honors major results in an honors degree designation on the diploma.

Departmental Honors Requirements

In order to enter the departmental honors program students must have achieved academic excellence in previous work, such as a high school g.p.a. of 3.5 or a college or university g.p.a. of 3.3. Students must meet all regular major requirements including the following: three honors-option courses within their major at the 2000 level or above, taught by full-time faculty members (internships cannot satisfy this requirement), at least one 4000-level seminar offered through the Liberal Arts and Sciences Honors Program, a senior honors thesis under the direction of a faculty advisor in their major area (COM 4996) and maintain a minimum g.p.a. of 3.3 cumulative and in the major.

Film Minor

A minor in film requires:

Code	Title	Credits
COM 2010	Introduction to Film	4
Select an additional fifteen credits from the following:		15
COM 1600	Introduction to Audio-Television-Film Production	
COM 1610	Fundamentals of New Media Production	
COM 2020	History of Film	
COM 2210	Media Writing and Storytelling	
COM 3380	Editing and Field Production	
COM 5020	Studies in Film History	
COM 5060	Documentary and Non-Fiction Film and Television	
COM 5270	Screenwriting	
COM 5384	Topics in Production Design and Theory	
COM 5390	Digital Animation	
COM 5400	Techniques of Film and Video Production	
COM 5410	Producer's Workshop	
COM 5420	Director's Workshop	
COM 5440	Film, Cinematography and Lighting	
COM 5540	Film Criticism and Theory	
COM 6190	Internship	
COM 6310	Allesee Lectures in Media	
COM 6410	Allesee Master Class	
COM 6680	Directed Projects in Film and Media	
Total Credits		19

Health Communication Minor

A minor in this area requires the following:

Code	Title	Credits
COM 2000	Introduction to Communication Studies	3
COM 3170	Fundamentals of Public Relations	3
COM 3250	Introduction to Organizational Communication	3
COM 4210	Research Methods in Communication	3
COM 5130	Communication and Social Marketing	3
COM 5320	Health Communication	3
Total Credits		18

Journalism (B.A.)

Journalism majors plan careers in news editorial, broadcast, media relations or marketing and advertising. Students have a choice between a concentration in Print and Online journalism or one in Broadcast and Digital Media.

Journalism Institute for Media Diversity: The Journalism Institute for Media Diversity is designed to recruit and train talented undergraduate students interested in diversity in the media. Members of all racial and ethnic groups as well as anyone interested in studying the importance of diversity in the nation's media are particularly urged to apply. The Institute pools the resources of the University, the business community and Detroit area media professionals to provide scholarships and internships for some of its students. For additional information contact:

Director, Journalism Institute for Media Diversity
Wayne State University Journalism Program
559 Manoogian
Detroit, MI 48201
Telephone: 313-577-6304

In addition to the course work below, students must complete all of the department's general degree requirements (p. 188).

Major Requirements: Journalism majors plan careers in news editorial, broadcast, media relations or marketing and advertising. Students have a choice between a concentration in Print and Online journalism or one in Broadcast and Digital Media. A journalism advisor must be consulted for verification of requirements, which go beyond the College's requirements, such as additional course work in history (HIS 2050 is required) and at least one required three-credit internship.

Print and Online Concentration

Code	Title	Credits
Core Courses		
COM 1500	Survey of Mass Communication	3
COM 2030	Journalistic Grammar and Style	3
COM 2100	News Reporting	3
COM 2280	Digital Photojournalism	3
COM 3100	Public Affairs Reporting	3
COM 3210	News Editing	3
COM 4100	Feature Writing	3
COM 4250	Reporting Race, Gender, and Culture	3
COM 5080	History of Journalism and Mass Media	3
COM 5250	Professional Issues in Journalism and Mass Media	3
COM 5500	Journalism and New Media	3
COM 6190	Internship (3 req.)	3
HIS 2050	Modern America: Since 1877	3
Electives		
Select six credits of the following:		6
COM 2230	Broadcast News Writing and Digital Editing	
COM 2250	South End Workshop	
COM 3010	Media Analysis and Criticism	
COM 3170	Fundamentals of Public Relations	
COM 3280		
COM 4130	Communication Ethics	
COM 4210	Research Methods in Communication	
COM 4990	Directed Study (Max. 4)	
COM 5160	Public Relations Campaigns and Issues Management	
COM 5300	Layout and Design	
COM 5310	Investigative Reporting	
COM 5381	TV News Reporting and Digital Editing	
COM 5460	Magazine Writing	
COM 5700		
COM 6190	Internship	
MKT 2300	Marketing Management	
MKT 5490	Principles of Advertising	
MKT 5510	Advertising Media Planning	
Total Credits		45

Broadcast News and Digital Media Concentration

Code	Title	Credits
Core Courses		
COM 1500	Survey of Mass Communication	3
COM 1600	Introduction to Audio-Television-Film Production	3
COM 2030	Journalistic Grammar and Style	3
COM 2100	News Reporting	3
COM 2230	Broadcast News Writing and Digital Editing	3
COM 4250	Reporting Race, Gender, and Culture	3
COM 4410	Television Production	4
COM 5080	History of Journalism and Mass Media	3
COM 5250	Professional Issues in Journalism and Mass Media	3
COM 5381	TV News Reporting and Digital Editing	3
COM 5500	Journalism and New Media	3
COM 6190	Internship (3 req.)	3
Electives		
Select six credits of the following:		6
COM 2280	Digital Photojournalism	
COM 3010	Media Analysis and Criticism	
COM 3100	Public Affairs Reporting	
COM 3380	Editing and Field Production	
COM 4130	Communication Ethics	
COM 4210	Research Methods in Communication	
COM/AFS 4240	African Americans in Television	
COM 4310	Audio Production	
COM 4990	Directed Study (Max. 4)	
COM 5060	Documentary and Non-Fiction Film and Television	
COM 5300	Layout and Design	
COM 5384	Topics in Production Design and Theory	
COM 5480		
COM 5510	Societal Effects of New Technologies	
COM 5610	Advanced TV Production	
COM 6190	Internship	
Total Credits		43

Departmental Honors Program

The Communication Department Honors program offers capable students the opportunity to pursue independent study and to work closely with department faculty members. Completion of the honors major results in an honors degree designation on the diploma.

Departmental Honors Requirements

In order to enter the departmental honors program students must have achieved academic excellence in previous work, such as a high school g.p.a. of 3.5 or a college or university g.p.a. of 3.3. Students must meet all regular major requirements including the following: three honors-option courses within their major at the 2000 level or above, taught by full-time faculty members (internships cannot satisfy this requirement), at least one 4000-level seminar offered through the Liberal Arts and Sciences Honors Program, a senior honors thesis under the direction of a faculty advisor in their major area (COM 4996) and maintain a minimum g.p.a. of 3.3 cumulative and in the major.

Journalism Minor

Print and Online Concentration

A minor in this area requires:

Code	Title	Credits
COM 1500	Survey of Mass Communication	3
COM 2030	Journalistic Grammar and Style	3
COM 2100	News Reporting	3
COM 3210	News Editing	3
COM 4100	Feature Writing	3
COM 5080	History of Journalism and Mass Media	3
One additional skills course with advisor approval:		1-3
COM 2280	Digital Photojournalism	
COM 3100	Public Affairs Reporting	
COM 5500	Journalism and New Media	
COM 6190	Internship	
Total Credits		19-21

Broadcast News and Digital Concentration

A minor in this area requires:

Code	Title	Credits
COM 1500	Survey of Mass Communication	3
COM 2030	Journalistic Grammar and Style	3
COM 2100	News Reporting	3
COM 2230	Broadcast News Writing and Digital Editing	3
COM 5080	History of Journalism and Mass Media	3
COM 5381	TV News Reporting and Digital Editing	3
One additional skills course with advisor approval:		1-3
COM 2280	Digital Photojournalism	
COM 5500	Journalism and New Media	
COM 5600	Strategic Communication in Nonprofit and the Arts Organizations	
COM 6190	Internship	
Total Credits		19-21

Media Arts and Studies (B.A.)

The major in Media Arts and Studies prepares students for careers in a wide range of media industries (such as radio, television, film and interactive media), for graduate programs in production and media studies, and to compete in a rapidly changing technological world. By integrating the history, theory and analysis of media culture, practices, and technology with production experience and internship opportunities, the program prepares students to think critically and creatively about media and become skilled communicators who are socially, ethically and aesthetically astute.

In addition to the course work below, students must complete all of the department's general degree requirements (p. 188).

Major Requirements: The major in Media Arts and Studies requires completion of a minimum of forty to forty-two credits in coursework as outlined below.

Code	Title	Credits
Required Courses		
COM 1500	Survey of Mass Communication	3
COM 1600	Introduction to Audio-Television-Film Production	3
COM 1610	Fundamentals of New Media Production	3
COM 2010	Introduction to Film	4
COM 2210	Media Writing and Storytelling	3
History and Analysis Courses		
Select two of the following:		6
COM 3010	Media Analysis and Criticism	
COM 4560	Telecommunications Policy: A Political Economy Approach	
COM 5010	History of Communication Technologies	
Production Courses		
Select two of the following:		6-7
COM 3380	Editing and Field Production	
COM 4310	Audio Production	
COM 4410	Television Production	
Capstone Course		
COM 5400	Techniques of Film and Video Production	3-4
or COM 5510	Societal Effects of New Technologies	
Electives		
Select nine credits of the following (at least three credits must be at the 5000 or 6000 level):		9
COM 2020	History of Film	
COM 2230	Broadcast News Writing and Digital Editing	
COM 2290	Fundamentals of New Media Communication	
COM 3010	Media Analysis and Criticism	
COM 3230	The African-American Film Experience	
COM 3380	Editing and Field Production	
COM 4240	African Americans in Television	
COM 4310	Audio Production	
COM 4410	Television Production	
COM 4560	Telecommunications Policy: A Political Economy Approach	
COM 4680	WAYN Radio	
COM 5010	History of Communication Technologies	
COM 5020	Studies in Film History	
COM 5060	Documentary and Non-Fiction Film and Television	
COM 5270	Screenwriting	
COM 5280	New Media Practices (Online)	
COM 5380	Video Field Production and Editing	
COM 5381	TV News Reporting and Digital Editing	
COM 5384	Topics in Production Design and Theory	
COM 5390	Digital Animation	
COM 5400	Techniques of Film and Video Production	
COM 5410	Producer's Workshop	
COM 5420	Director's Workshop	
COM 5440	Film, Cinematography and Lighting	
COM 5510	Societal Effects of New Technologies	
COM 5540	Film Criticism and Theory	
COM 5610	Advanced TV Production	
COM 6190	Internship (Max. 6)	
COM 6270	New Media Theory	
COM 6310	Allesee Lectures in Media	
COM 6410	Allesee Master Class	
COM 6680	Directed Projects in Film and Media	
Total Credits		40-42

Departmental Honors Program

The Communication Department Honors program offers capable students the opportunity to pursue independent study and to work closely with department faculty members. Completion of the honors major results in an honors degree designation on the diploma.

Departmental Honors Requirements

In order to enter the departmental honors program students must have achieved academic excellence in previous work, such as a high school g.p.a. of 3.5 or a college or university g.p.a. of 3.3. Students must meet all regular major requirements including the following: three honors-option courses within their major at the 2000 level or above, taught by full-time faculty members (internships cannot satisfy this requirement), at least one 4000-level seminar offered through the Liberal Arts and Sciences Honors Program, a senior honors thesis under the direction of a faculty advisor in their major area (COM 4996) and maintain a minimum g.p.a. of 3.3 cumulative and in the major.

Media Arts and Studies Minor

A minor in this area requires:

Code	Title	Credits
COM 1500	Survey of Mass Communication	3
COM 1600	Introduction to Audio-Television-Film Production	3
COM 2010	Introduction to Film	4
COM 2210	Media Writing and Storytelling	3
Select six credits of the following:		6
COM 2020	History of Film	
COM 2230	Broadcast News Writing and Digital Editing	
COM 3010	Media Analysis and Criticism	
COM 4310	Audio Production	
COM 4410	Television Production	
COM 5010	History of Communication Technologies	
COM 5060	Documentary and Non-Fiction Film and Television	
COM 5380	Video Field Production and Editing	
COM 5510	Societal Effects of New Technologies	
Total Credits		19

New Media Minor

A minor in this area requires:

Code	Title	Credits
COM 1500	Survey of Mass Communication	3
or COM 3400	Theories of Communication	
COM 2260	Digital Writing and Research Methods	3
COM 2290	Fundamentals of New Media Communication	3
COM 2310	Introduction to Web Design	3
or COM 5500	Journalism and New Media	
Two additional new media electives selected in consultation with a departmental advisor		6
Total Credits		18

Public Relations (B.A.)

Students electing this major typically seek employment in one of the many career opportunities in public relations: business and industry; non-profit organizations; trade associations; government service; education; or account executive positions in an agency. Some students later pursue graduate-level study in fields such as organizational communication. The Public Relations program at Wayne State is one of two programs in Michigan accredited by The Public Relations Society of America.

In addition to the course work below, students must complete all of the department's general degree requirements (p. 188).

Major Requirements The major in Public Relations requires completion of a minimum of forty-two credits in coursework as outlined below.

Code	Title	Credits
Core Courses		
Select four of the following:		12
COM 1010	Oral Communication: Basic Speech	
COM 3170	Fundamentals of Public Relations	
COM 4170	Public Relations Writing	
COM 4210	Research Methods in Communication	
COM 5160	Public Relations Campaigns and Issues Management [1]	
Additional Requirements		
COM 1500	Survey of Mass Communication	3
COM 2030	Journalistic Grammar and Style	3
COM 2100	News Reporting	3
COM 2170	Persuasive Speaking	3
or COM 3300	Business and Professional Presentations	
COM 3210	News Editing	3
COM 3250	Introduction to Organizational Communication	3
COM 3400	Theories of Communication	3
COM 5130	Communication and Social Marketing	3
Select one of the following:		3
COM 5140	Public Relations and Social Media	
COM 5300	Layout and Design	
COM 5500	Journalism and New Media	
Total Credits		39

1 COM 5160 is the senior level capstone course. To be taken in last twenty-one credits of study

Recommended electives include an internship (COM 6190), as well as courses in Journalism (COM 4100) and Communication Studies (COM 2200). An advisor should be consulted early in the student's program. Direct inquiries to 585 Manoogian Hall (313-577- 2946).

Departmental Honors Program

The Communication Department Honors program offers capable students the opportunity to pursue independent study and to work closely with department faculty members. Completion of the honors major results in an honors degree designation on the diploma.

Departmental Honors Requirements

In order to enter the departmental honors program students must have achieved academic excellence in previous work, such as a high school g.p.a. of 3.5 or a college or university g.p.a. of 3.3. Students must meet all regular major requirements including the following: three honors-option courses within their major at the 2000 level or above, taught by full-time faculty members (internships cannot satisfy this requirement), at least one 4000-level seminar offered through the Liberal Arts and Sciences Honors Program, a senior honors thesis under the direction of a faculty advisor in their major area (COM 4996) and maintain a minimum g.p.a. of 3.3 cumulative and in the major.

Public Relations Minor

A minor in this area requires:

Code	Title	Credits
COM 1500	Survey of Mass Communication	3
COM 2030	Journalistic Grammar and Style	3
COM 2100	News Reporting	3
COM 3170	Fundamentals of Public Relations	3
COM 4170	Public Relations Writing	3
COM 3210	News Editing	3
COM 3250	Introduction to Organizational Communication	3
Total Credits		21

Music

Office: 1321 Old Main; 313-577-1795;
Chairperson: Norah Duncan IV
Interim Associate Chairperson: Russell Miller
B.A. Advisor and Graduate Officer: Joshua Duchan

Academic Advisor: Maurice Draughn
Academic Services Officers: Paul Bishop, Leah Celebi
Departmental Scholarships and Student Records: Kimberly Simmons
Supervisor, Academic and Student Personnel: Evelyn Williams
http://www.music.wayne.edu

The Department of Music cultivates music as a modern and global art, grounded in a long historical tradition, by combining higher education with professional training and experience for its undergraduate and graduate/professional students.

The Department offers serious students of music opportunities to learn, grow, and develop their skills and disciplines in an urban cultural setting. With close proximity to Detroit's cultural center, students have access to the resources of such premiere institutions as the Chamber Music Society, the Detroit Institute of Arts, the Detroit Jazz Festival, the Detroit Public Library, the Detroit Opera House, and Orchestra Hall. The long historical relationship between the Detroit Symphony Orchestra and the Department allows students to study and coach with exceptional guest artists and resident artist-faculty who are specialists in all musical styles and media.

Building on the strengths of its geographic and cultural setting, the Department maintains public access to its performances and degree programs, offers high-level professional and academic standards and unique creative and scholarly opportunities appropriate to a large research university, and cultivates a deep aesthetic understanding of music in our students and the larger urban arts community.

- Music (B.A.) (p. 197)
- Music (B.Mus.) (p. 197)
- Music Minor (p. 202)
- Jazz Studies Minor for Instrumental Music Education Majors (p. 202)
- Music Technology Minor (p. 202)

Bachelor Degree Requirements

Department of Music

Registration: All students must meet with a Department of Music advisor prior to initial course registration and at least once per term for early registration advising. Enrollment in all MUP courses requires departmental permission.

Scholarship: All course credit applicable to the degree programs described in the following pages must be completed in accordance with the academic procedures of the University (p. 11) and the College (p. 173) governing undergraduate scholarship and degrees.

Music majors pursuing undergraduate degrees must earn the grade of C or better in all music courses required in the music curriculum they are pursuing. The grade of C-minus or below is not an acceptable grade for degree credit. If the grade of C-minus or below (or a mark of WF) is received by a music major in any required course in a music curriculum, the student must repeat the course and earn a grade of C or better. Students who fail to achieve a grade of C or better in required music courses following two attempts may not be allowed to continue to register as Music Majors.

DOUBLE MAJORS: Music majors in any concentration may seek a second major outside Music with the approval of the Department of Music and the Department offering the second major. Double concentrations within a single major, however, are not granted by the University.

Ensemble Participation

The Music Department encourages all musically inclined students to join its ensembles. Participation gives music majors and non-majors the opportunity to improve their musical skills and perform in internationally recognized groups. Conductors audition new students during the week before classes begin; the level of skill necessary varies by ensemble, however, most require music literacy. Music majors must elect designated Major Ensembles (MUA 2800, MUA 2810, MUA 2820, MUA 2822, MUA 2840, or MUA 2850) for degree credit.

BANDS: Woodwind, brass and percussion players are welcome to join the Concert Band. Wind Symphony members are chosen through competitive auditions.

CHORUSES: Non-music majors are encouraged to register for Choral Union (the large mixed-voice choir), Men's Chorus or Women's Chorale. Concert Chorale is the Department's most select vocal ensemble, and auditions are especially competitive. Music majors who are required to participate in a choral ensemble must elect Choral Union (MUA 2840) or Concert Chorale (MUA 2850) for degree credit.

JAZZ: Jazz studies and other music majors are given highest priority for jazz big band positions (MUA 2820) and jazz guitar ensembles (MUA 2822). Non-music majors are welcome to audition for all jazz ensembles and combos.

ORCHESTRA: Positions in the Orchestra are assigned through auditions with the conductor of the Orchestra.

General Education Requirements

University-wide General Education Requirements are designed to enhance students' basic skills and the diversity of their intellectual background. These requirements assure minimal competence in those skills needed to succeed in college and professional life and provide a selective introduction to the increasingly broad range of academic disciplines represented at the University. They serve to emphasize the fundamental means and essential knowledge required for continuing self-education and intellectual growth. The College adheres to specified timelines for completion of General Education requirements (p. 34).

Some of the courses listed in the University General Education program are also courses required in some majors. With careful course selection, students may satisfy both General Education Requirements and Department Requirements in some majors (and concentrations, where applicable). Students should consult the department academic advisors in order to take advantage of these occasions of overlapping requirements.

Music: Private Instruction

Private instruction in instruments and voice are required in all B.A. and B.Mus. concentrations. The courses listed in the following table under *Principal and Secondary Private Instruction*, MUP 1xxx and 3xxx, are available for one credit each and are intended for students studying instruments as required in the concentrations:

- B.A. in Music
- Composition
- Instrumental Music Education
- Vocal Music Education
- Music Business
- Music Technology
- Jazz Studies
- secondary instrument study in the Performance concentration

All students must successfully pass a junior-standing jury for permission to continue elections at the 3xxx level.

The courses listed in the following table under *Major Private Instruction*, MUP 2xxx and 4xxx, are available for three credits each and are intended for students studying major instruments as required in all performance concentrations. All students must successfully pass a junior-standing jury for permission to continue elections at the 4xxx level.

Corequisite: Students enrolled in MUP Private Instruction must concurrently register in an appropriate major ensemble selected from the following:

Code	Title	Credits
MUA 2800	University Bands	1
MUA 2810	University Symphony Orchestra	1
MUA 2820	Jazz Big Band	1
MUA 2822	Jazz Guitar Ensemble	1
MUA 2840	Choral Union	1
MUA 2850	Concert Chorale	1

Fees: MUP courses have applied music fees as stated in course list in the bulletin as well as the schedule of classes.

Principal and Secondary Private Instruction Courses

Instrument	Freshman	Sophomore	Secondary	Junior	Senior	Secondary
Organ	MUP 1201,1202	MUP 1203,1204	MUP 1205	MUP 3201,3202	MUP 3203,3204	MUP 3205
Piano	MUP 1211,1212	MUP 1213,1214	MUP 1215	MUP 3211,3212	MUP 3213,3214	MUP 3215
Voice	MUP 1221,1222	MUP 1223,1224	MUP 1225	MUP 3221,3222	MUP 3223,3224	MUP 3225
Strings	MUP 1231,1232	MUP 1233,1234	MUP 1235	MUP 3231,3232	MUP 3233, 3234	MUP 3235
Woodwinds	MUP 1241,1242	MUP 1243,1244	MUP 1245	MUP 3241,3242	MUP 3243,3244	MUP 3245
Brasswinds	MUP 1251,1252	MUP 1253,1254	MUP 1255	MUP 3251,3252	MUP 3253,3254	MUP 3255
Percussion	MUP 1261,1262	MUP 1263,1264	MUP 1265	MUP 3261,3262	MUP 3263,3264	MUP 3265
Harp	MUP 1271,1272	MUP 1273,1274	MUP 1275	MUP 3271,3272	MUP 3273,3274	MUP 3275
Classic Guitar	MUP 1281,1282	MUP 1283,1284	MUP 1285	MUP 3281,3282	MUP 3283,3284	MUP 3285
Jazz Piano	MUP 1321,1322	MUP 1323,1324	MUP 1325	MUP 3321,3322	MUP 3323,3324	MUP 3325
Jazz Strings	MUP 1331,1332	MUP 1333,1334	MUP 1335	MUP 3331,3332	MUP 3333,3334	MUP 3335
Jazz Woodwinds	MUP 1341,1342	MUP 1343,1344	MUP 1345	MUP 3341,3342	MUP 3343,3344	MUP 3345
Jazz Brasswinds	MUP 1351,1352	MUP 1353,1354	MUP 1355	MUP 3351,3352	MUP 3353,3354	MUP 3355
Jazz Percussion	MUP 1361,1362	MUP 1363,1364	MUP 1365	MUP 3361,3362	MUP 3363,3364	MUP 3365
Jazz Guitar	MUP 1371,1372	MUP 1373,1374	MUP 1375	MUP 3371,3372	MUP 3373,3374	MUP 3375

Major Private Instruction Courses

Instrument	Freshman	Sophomore	Junior	Senior
Organ	MUP 2201, 2202	MUP 2203, 2204	MUP 4201, 4202	MUP 4203, 4204
Piano	MUP 2211, 2212	MUP 2213, 2214	MUP 4211, 4212	MUP 4213, 4214
Voice	MUP 2221, 2222	MUP 2223, 2224	MUP 4221, 4222	MUP 4223, 4224
Strings	MUP 2231, 2232	MUP 2233, 2234	MUP 4231, 4232	MUP 4233, 4234
Woodwinds	MUP 2241, 2242	MUP 2243, 2244	MUP 4241, 4242	MUP 4243, 4244
Brasswinds	MUP 2251, 2252	MUP 2253, 2254	MUP 4251, 4252	MUP 4253, 4254

Percussion	MUP 2261, 2262	MUP 2263, 2264	MUP 4261, 4262	MUP 4263, 4264
Harp	MUP 2271, 2272	MUP 2273, 2274	MUP 4271, 4272	MUP 4273, 4274
Classic Guitar	MUP 2281, 2282	MUP 2283, 2284	MUP 4281, 4282	MUP 4283, 4284
Jazz Piano				MUP 3323/4323, 3324/4324
Jazz Strings				MUP 3333/4333, 3334/4334
Jazz Woodwinds				MUP 3343/4343, 3344/4344
Jazz Brasswinds				MUP 3353/4353, 3354/4354
Jazz Percussion				MUP 3363/4363, 3364/4364
Jazz Guitar				MUP 3373/4373, 3374/4374

Music (B.A.)

The Bachelor of Arts curriculum is designed for students who want to develop their musical knowledge and ability while obtaining a broad liberal arts education. It provides students with the academic and musical prerequisites necessary for continuing graduate study in such fields as music theory, musicology and ethnomusicology.

Admission Requirements

Admission Requirements for the Bachelor of Arts program are satisfied by

1. general requirements for admission (p. 22) to the University;
2. a successful audition on a principal instrument or voice.

Candidates for this degree must complete a minimum of 120 credits including satisfaction of the University General Education requirements (p. 34), College degree requirements (p. 175), and Bachelor of Arts curriculum requirements listed below.

ONLY SIXTY CREDITS IN MUSIC ARE APPLICABLE TO THIS DEGREE.

General Education Requirements (35 Credits)

Code	Title	Credits
MUH 1345	Music Cultures (to satisfy the Global Learning distribution requirement)	3
Other requirements		32

Music Requirements (47 – 48 Total Credits)

Code	Title	Credits
Piano Competency, Applied Music, and Ensembles		
MUA 1795	Piano Skills I	2
MUA 2795	Piano Skills II	2
Four terms of appropriate MUP. private instruction in principal instrument or voice. See Principal and Secondary Private Instruction Courses for courses.		4
Select four terms of the same ensemble (must be elected concurrently with MUP private instruction) from the following:		4
MUA 2800	University Bands	
MUA 2810	University Symphony Orchestra	
MUA 2820	Jazz Big Band	
MUA 2822	Jazz Guitar Ensemble	
MUA 2840	Choral Union	
MUA 2850	Concert Chorale	
General Lectures and Concerts		
MUA 0900	General Lectures and Concerts (four terms)	0
Music History, Theory and Technology		
MUH 3310	Music History and Literature I	3
MUH 3320	Music History and Literature II	3
MUH 3330	Music History and Literature III	3
MUT 1140	Theory I	3
MUT 1150	Ear Training I	1
MUT 1160	Theory II	3
MUT 1170	Ear Training II	1
MUT 2140	Theory III	3
MUT 2150	Ear Training III	1
MUT 2160	Theory IV	3
MUT 2170	Ear Training IV	1
MUT 5997	Analytical Techniques	3
MUA 2500	Music Technology	3
Music Elective		
Select one of the following:		2-3
MUA 3670	Conducting Techniques I	
MUH 3360	Jazz History	
MUH 5300	Music Research	
MUT 2100	Counterpoint	
MUT 5085	History of Theory	
MUT 5220	Introduction to Schenkerian Analysis	
MUT 5240	Analysis of Twentieth-Century Music	
MUT 5200	Special Topics in Theory	
B.A. Project		
Select one of the following:		2
MUA 4990	BA Project	
MUH 4990	BA Project	
MUT 4990	BA Project	
Total Credits		47-48

Music (B.Mus.)

The Bachelor of Music degree provides a program for talented students with prior musical experience and skills who seek professional training in music. A wide range of concentrations is available under the program to meet the specialized interests and career plans of serious music students. Depending on the student's qualifications, he or she may choose from seven professional areas of concentration: composition; instrumental music education; vocal music education; music business; music technology; jazz studies; or performance.

Admission Requirements

Admission to this program is contingent upon

1. satisfaction of the general requirements for undergraduate admission (p. 22) to the University;
2. a successful audition on a principal instrument or voice.

Audition dates are scheduled throughout the year and prospective students should contact the Music Office at 313-577-1795 for scheduling information. Entering students must consult a departmental advisor prior to their first registration.

Candidates for the Bachelor of Music must complete 120 to 127 credits including satisfaction of the University General Education requirements (p. 34), College degree requirements (p. 175), as well as the specific course requirements for each concentration listed below. In addition, all Bachelor of Music students are required to successfully complete a junior-standing performance jury and, depending upon concentration, other junior-standing assessments during the fourth semester of enrollment.

Concentrations (B.Mus. Program)

Composition (120 Credits minimum)

Code	Title	Credits
General Education Requirements		
MUH 1345	Music Cultures (to satisfy the Global Learning distribution requirement)	3
PHI 3700	Philosophy of Art (to satisfy the Cultural inquiry, Philosophy and Letters General Education distribution requirement)	3
Other requirements		29
Piano Competency, Applied Music, and Ensembles		
MUA 1795	Piano Skills I	2
MUA 2795	Piano Skills II	2
Six terms of appropriate MUP courses (private instruction in principal instrument or voice, one credit per term - total six credits). See Principal and Secondary Private Instruction Courses for courses		6
If Piano is not the principal instrument, two terms of MUP 1215, Secondary Piano and two terms of MUP 3215, Secondary Piano (Students whose principal instrument is not piano may apply these four credits to satisfy the elective requirement).		0-4
Select six terms of major ensemble (must be elected concurrently with MUP private instruction) of the following:		6
MUA 2800	University Bands	
MUA 2810	University Symphony Orchestra	
MUA 2820	Jazz Big Band	
MUA 2822	Jazz Guitar Ensemble	
MUA 2840	Choral Union	
MUA 2850	Concert Chorale	
Select one term of chamber music of the following:		1
MUA 2826	Jazz Combos	
MUA 2880	Chamber Music and Special Ensembles	
MUA 2891	Electronic Music Ensemble	
General Lectures and Concerts		
MUA 0900	General Lectures and Concerts (four terms)	0
Music History, Music Theory, Conducting and Technology		
MUH 3310	Music History and Literature I	3
MUH 3320	Music History and Literature II	3
MUH 3330	Music History and Literature III	3
MUT 1140	Theory I	3
MUT 1150	Ear Training I	1
MUT 1160	Theory II	3
MUT 1170	Ear Training II	1
MUT 2030	Keyboard Harmony I	1
MUT 2040	Keyboard Harmony II	1
MUT 2100	Counterpoint	2
MUT 2120	Jazz Theory and Harmony	3
MUT 2140	Theory III	3
MUT 2150	Ear Training III	1
MUT 2160	Theory IV	3
MUT 2170	Ear Training IV	1
MUT 3000	Orchestration	2
MUT 5997	Analytical Techniques	3
MUA 2500	Music Technology	3
MUA 3670	Conducting Techniques I	2
Select one of the following:		3
MUT 5060	Advanced Orchestration	
MUT 5200	Special Topics in Theory	
MUT 5220	Introduction to Schenkerian Analysis	
MUT 5240	Analysis of Twentieth-Century Music	
Composition		
MUT 1200	Beginning Composition I	2
MUT 1210	Beginning Composition II	2
MUT 2200	Beginning Composition III	2
MUT 2210	Beginning Composition IV	2
MUT 3200	Intermediate Composition I	2
MUT 3210	Intermediate Composition II	2
MUT 4200	Advanced Composition I	2
MUT 4210	Advanced Composition II	2
MUT 5280	Interactive Electronic Music Composition	3
Music Electives		
(Required of students whose major instrument is piano). Selected in consultation with program advisor		4
Senior Project		
Presentation of a program of original compositions approved by the major advisor		0

Instrumental Music Education (126 credits)

Code	Title	Credits
General Education Requirement		
MUH 1345	Music Cultures (to satisfy the Global Learning distribution requirement)	3
Other requirements		32
Piano Competency, Applied Music, and Ensembles		
MUA 1795	Piano Skills I	2
MUA 2795	Piano Skills II	2
Seven terms of appropriate MUP courses (private instruction in principal instrument, one credit per term - total seven credits). See Principal and Secondary Private Instruction Courses for courses		7
Select six terms of major ensemble (must be elected concurrently with MUP private instruction) of the following:		6
MUA 2800	University Bands (6 req. for winds, brass, or percussion principals)	
MUA 2810	University Symphony Orchestra (6 req. for strings principals)	
Select one secondary performance ensemble from the following:		1
MUA 2820	Jazz Big Band	
MUA 2830	Men's Glee Club	

MUA 2840	Choral Union	
MUA 2870	Women's Chorale	
MUA 2891	Electronic Music Ensemble	
General Lectures and Concerts		
MUA 0900	General Lectures and Concerts (4 terms)	0
Music History, Theory, and Technology		
MUH 3310	Music History and Literature I	3
MUH 3320	Music History and Literature II	3
MUH 3330	Music History and Literature III	3
MUT 1140	Theory I	3
MUT 1150	Ear Training I	1
MUT 1160	Theory II	3
MUT 1170	Ear Training II	1
MUT 2140	Theory III	3
MUT 2150	Ear Training III	1
MUT 2160	Theory IV	3
MUT 2170	Ear Training IV	1
MUT 3000	Orchestration	2
MUT 5997	Analytical Techniques	3
MUA 2500	Music Technology	3
Instrumental Techniques and Conducting		
MUA 1720	Voice Techniques and Pedagogy	2
MUA 1730	String Techniques and Pedagogy	2
MUA 1740	Woodwind Techniques and Pedagogy	2
MUA 1750	Brasswind Techniques and Pedagogy	2
MUA 1760	Percussion Techniques and Pedagogy	2
MUA 3670	Conducting Techniques I	2
MUA 3680	Conducting Techniques II	2
Music Education		
MED 3500	Introduction to Music Education	2
MED 3510	Teaching General Music	2
MED 4540	Instrumental Music in the Schools I	3
MED 4550	Instrumental Music in the Schools II	3
MED 4560	Practicum in Music Education	2
College of Education Required Courses		
EDP 3310	Educational Psychology	3
RLL 6121	Teaching Reading in the Content Areas: Grades 6-12	3
TED 5790	Directed Teaching and Conference for Special Groups	8

NOTE: Music Education and the College of Education Joint Enrollment: All music education students must apply for admission to the College of Education (COE) at the end of their sophomore year. Students are then jointly enrolled in the College of Fine, Performing and Communication Arts and the College of Education. Students should contact their music education advisor for information on applying to the COE. Students will not be allowed to register for the professional courses taught through the College of Education (EDP 3310,RLL 6121andTED 5790) until they have been officially admitted to the COE.

Vocal Music Education (126 Credits)

Code	Title	Credits
General Education Requirement		
MUH 1345	Music Cultures (to satisfy the Global Learning distribution requirement)	3
Other requirements		32
Piano Competency, Applied Music, and Ensembles		
MUA 1795	Piano Skills I	2
MUA 2795	Piano Skills II	2
All Vocal Music Education students must declare either voice or piano as a principal applied music area.		
Select one of the following:		10
Voice principals		
Six terms of MUP. Voice principal private instruction, one credit per term, AND four terms of MUP. Piano secondary private instruction, one credit per term (total ten credits). See MUP course table (Principal and Secondary Private Instruction Courses) for course numbers.		
Piano principals		
Six terms of MUP Piano principal private instruction, one credit per term, AND four terms of MUP. Voice secondary private instruction, one credit per term - (total ten credits). See MUP course table (Principal and Secondary Private Instruction Courses) for course numbers.		
Select six terms of major ensemble (must be elected concurrently with MUP private instruction) of the following:		6
MUA 2840	Choral Union	
MUA 2850	Concert Chorale	
Select one term of secondary ensemble of the following:		1
MUA 2830	Men's Glee Club	
MUA 2860	Opera Workshop	
MUA 2870	Women's Chorale	
General Lectures and Concerts		
MUA 0900	General Lectures and Concerts (4 terms)	0
Music History, Theory, and Technology		
MUH 3310	Music History and Literature I	3
MUH 3320	Music History and Literature II	3
MUH 3330	Music History and Literature III	3
MUT 1140	Theory I	3
MUT 1150	Ear Training I	1
MUT 1160	Theory II	3
MUT 1170	Ear Training II	1
MUT 2140	Theory III	3
MUT 2150	Ear Training III	1
MUT 2160	Theory IV	3
MUT 2170	Ear Training IV	1
MUT 5997	Analytical Techniques	3
MUA 2500	Music Technology	3
Instrumental Techniques and Conducting		
MUA 1700	Guitar Class	2
or MUA 1730	String Techniques and Pedagogy	
MUA 3670	Conducting Techniques I	2
MED 5550	Choral Conducting and Rehearsal Techniques	3
Select two of the following:		4
MUA 1740	Woodwind Techniques and Pedagogy	
MUA 1750	Brasswind Techniques and Pedagogy	
MUA 1760	Percussion Techniques and Pedagogy	
Music Education		
MUA 1720	Voice Techniques and Pedagogy	2
MED 2500	Piano Skills for the Music Classroom	2
MED 3500	Introduction to Music Education	2
MED 3510	Teaching General Music	2

MED 4510	Vocal Music in Schools I	3
MED 4530	Vocal Music in Schools II	3
MED 4560	Practicum in Music Education	2
MED 4570	Student Teaching and Seminar	8
College of Education Required Courses		
EDP 3310	Educational Psychology	3
RLL 6121	Teaching Reading in the Content Areas: Grades 6-12	3

NOTE: Music Education and the College of Education Joint Enrollment: All music education students must apply for admission to the College of Education (COE) at the end of their sophomore year. Students are then jointly enrolled in the College of Fine, Performing and Communication Arts and the College of Education. Students should contact their music education advisor for information on applying to the COE. Students will not be allowed to register for the professional courses taught through the College of Education (EDP 3310and orRLL 6121) until they have been officially admitted to the COE.

Music Business (122 - 125 Credits)

Code	Title	Credits
General Education Requirement		
MUH 1345	Music Cultures (to satisfy the Global Learning distribution requirement)	3
PSY 1010	Introductory Psychology (to satisfy both the Natural Science Inquiry (NSI) distribution requirement and the prerequisite for MGT 2530)	3-4
or PSY 1020	Elements of Psychology	
Other requirements		29
Piano Competency, Applied Music, and Ensembles		
MUA 1795	Piano Skills I	2
MUA 2795	Piano Skills II	2
Six terms of appropriate MUP courses (private instruction in principal instrument or voice, one credit per term. See Principal and Secondary Private Instruction Courses)		6
Select six terms of major ensemble (must be elected concurrently with MUP private instruction) of the following:		6
MUA 2800	University Bands	
MUA 2810	University Symphony Orchestra	
MUA 2820	Jazz Big Band	
MUA 2822	Jazz Guitar Ensemble	
MUA 2840	Choral Union	
MUA 2850	Concert Chorale	
General Lectures and Concerts		
MUA 0900	General Lectures and Concerts	0
Music History, Theory, and Technology		
MUH 3310	Music History and Literature I	3
MUH 3320	Music History and Literature II	3
MUH 3330	Music History and Literature III	3
MUT 1140	Theory I	3
MUT 1150	Ear Training I	1
MUT 1160	Theory II	3
MUT 1170	Ear Training II	1
MUT 2140	Theory III	3
MUT 2150	Ear Training III	1
MUT 2160	Theory IV	3
MUT 2170	Ear Training IV	1
MUT 5997	Analytical Techniques	3
MUA 2500	Music Technology	3
Music Business Requirements		
MUA 2400	Music Business I	3
MUA 3670	Conducting Techniques I	2
MUA 5600	Music Business II	3
MUA 2510	Studio Recording Techniques	2
MUA 5700	Music Business III	3
MUA 5800	Music Business IV	3
MUA 4650	Directed Study: Internships (two terms: 4 credits, typically one- and three-credit elections)	1-3
Business Courses and Related Requirements		
ACC 3010	Introduction to Financial Accounting	3
BA 2300	Quantitative Methods I: Probability and Statistical Inference	3
ECO 2010	Principles of Microeconomics	4
ECO 2020	Principles of Macroeconomics	4
MAT 1500	College Algebra for the Social and Management Sciences	3
MGT 2530	Management of Organizational Behavior	3
MKT 2300	Marketing Management	3

Music Technology (120 Credits)

Code	Title	Credits
General Education Requirement		
MUH 1345	Music Cultures (to satisfy the Global Learning distribution requirement)	3
MAT 1050	Algebra With Trigonometry	5-7
Other requirements		25-27
Piano Competency, Applied Music, and Ensembles		
MUA 1795	Piano Skills I	2
MUA 2795	Piano Skills II	2
Six terms of appropriate MUP courses (private instruction in principal instrument or voice, 1 credit per term - total six credits). See Principal and Secondary Private Instruction Courses		6
MUA 2891	Electronic Music Ensemble (2 terms; must be elected concurrently with MUP private instruction)	2
Select four terms of major ensemble (must be elected concurrently with MUP private instruction) of the following:		4
MUA 2800	University Bands	
MUA 2810	University Symphony Orchestra	
MUA 2820	Jazz Big Band	
MUA 2822	Jazz Guitar Ensemble	
MUA 2840	Choral Union	
MUA 2850	Concert Chorale	
General Lectures and Concerts		
MUA 0900	General Lectures and Concerts (4 terms)	0
Music History, Theory, and Technology		
MUH 3310	Music History and Literature I	3
MUH 3320	Music History and Literature II	3
MUH 3330	Music History and Literature III	3
MUT 1140	Theory I	3
MUT 1150	Ear Training I	1
MUT 1160	Theory II	3
MUT 1170	Ear Training II	1
MUT 2140	Theory III	3
MUT 2150	Ear Training III	1

MUT 2160	Theory IV	3
MUT 2170	Ear Training IV	1
MUT 5997	Analytical Techniques	3
MUA 2500	Music Technology	3
Music Technology Requirements		
MUA 2400	Music Business I	3
MUA 2510	Studio Recording Techniques	2
MUA 2530	Electronic Music Synthesis	3
MUA 3510	Mixing and Mastering	2
MUA 3530	Sound Design	3
MUA 3550	Advanced Studio Techniques	2
Elect four (4) of the following five (5) courses:		12
MUA 4010	Audio Electronics	
MUA 4020	Theories of Electronic Music	
MUA 4030	Sound Design for Visual Media	
MUA 4040	Electroacoustic Music	
MUT 5280	Interactive Electronic Music Composition	
MUA 4650	Directed Study: Internships	3
MUA 4950	Music Technology Senior Project	1
Other Courses (as necessary to reach 120 credits)		2-5

Jazz Studies (120 Credits)

Code	Title	Credits
General Education Requirement		
MUH 1345	Music Cultures (to satisfy the Global Learning distribution requirement)	3
Other requirements		32
Piano Competency, Applied Music, and Ensembles		
MUA 1795	Piano Skills I	2
MUA 2795	Piano Skills II	2
MUA 3795	Advanced Piano Skills	2
Eight terms of appropriate MUP courses (private instruction in principal instrument, one credit. per term - total eight credits). See Principal and Secondary Private Instruction Courses for course numbers		8
Select eight terms of major ensemble (must be elected concurrently with MUP private instruction) of the following:		8
MUA 2820	Jazz Big Band	
MUA 2822	Jazz Guitar Ensemble	
Select two terms of Jazz Combos of the following:		2
MUA 2824	Jazztet	
MUA 2826	Jazz Combos	
General Lectures and Concerts		
MUA 0900	General Lectures and Concerts (four terms)	0
Music History, Theory, and Technology		
MUH 3310	Music History and Literature I	3
MUH 3320	Music History and Literature II	3
MUH 3330	Music History and Literature III	3
MUT 1140	Theory I	3
MUT 1150	Ear Training I	1
MUT 1160	Theory II	3
MUT 1170	Ear Training II	1
MUT 2140	Theory III	3
MUT 2150	Ear Training III	1
MUT 2160	Theory IV	3
MUT 2170	Ear Training IV	1
MUT 5997	Analytical Techniques	3
MUA 2500	Music Technology	3
Jazz Studies Requirements		
MUH 3360	Jazz History	3
MUT 2120	Jazz Theory and Harmony	3
MUT 2885	Jazz Improvisation I	1
MUT 2887	Jazz Improvisation II	1
MUT 3200	Intermediate Composition I	2
MUT 5110	Jazz Arranging and Composition I	3
MUT 5120	Jazz Arranging and Composition II	3
MUT 5130	Jazz Arranging and Orchestration	3
MUA 3670	Conducting Techniques I	2
MUA 5600	Music Business II	3
MUA 2510	Studio Recording Techniques	2
MUA 5690	Stage Band Direction	1
MUP 4480	Senior Recital (must be elected concurrently with MUP 33X4: Principal Private Instruction)	0

Performance (120 credits minimum)

Code	Title	Credits
General Education Requirement		
MUH 1345	Music Cultures (to satisfy the Global Learning distribution requirement)	3
Other requirements		32
Piano Competency, Applied Music, and Ensembles		
MUA 1795	Piano Skills I	2
MUA 2795	Piano Skills II	2
Eight terms of appropriate MUP courses (major instrument or voice, three credits per term - total twenty-four credits). See MUP course table (Major Private Instruction Courses) for course numbers.		24
Select eight terms of major ensemble (must be elected concurrently with MUP private instruction) of the following:		8
MUA 2800	University Bands	
MUA 2810	University Symphony Orchestra	
MUA 2840	Choral Union	
MUA 2850	Concert Chorale	
General Lectures and Concerts		
MUA 0900	General Lectures and Concerts (4 terms)	0
Music History, Theory, and Technology		
MUH 3310	Music History and Literature I	3
MUH 3320	Music History and Literature II	3
MUH 3330	Music History and Literature III	3
MUT 1140	Theory I	3
MUT 1150	Ear Training I	1
MUT 1160	Theory II	3
MUT 1170	Ear Training II	1
MUT 2140	Theory III	3
MUT 2150	Ear Training III	1
MUT 2160	Theory IV	3
MUT 2170	Ear Training IV	1
MUT 5997	Analytical Techniques	3
MUA 2500	Music Technology	3
Performance Major Requirements		
MUT 2100	Counterpoint	2
MUH 5350	Performance Literature and Pedagogy	3
MUP 4470	Junior Recital [1]	0

MUP 4480	Senior Recital [1]	0
MUP (appropriate) secondary instrument		2
Specific concentration requirements		
Select from the following majors:		6-8
Piano Majors		
MUT 2030	Keyboard Harmony I	
MUT 2040	Keyboard Harmony II	
MUT 3000	Orchestration	
MUA 2880	Chamber Music and Special Ensembles (4 req.)	
Organ Majors		
MUT 2030	Keyboard Harmony I	
MUT 2040	Keyboard Harmony II	
MUA 5730	Harpsichord Class (2 terms)	
MUA 2880	Chamber Music and Special Ensembles	
Brass, Classic Guitar, Percussion, Strings, and Woodwinds Majors		
MUA 3670	Conducting Techniques I	
MUT 3000	Orchestration	
MUA 2880	Chamber Music and Special Ensembles (4 req.)	
Voice Majors		
MUH 5370	Diction and Song Literature I	
MUH 5380	Diction and Song Literature II	
Demonstrate proficiency in two foreign languages selected in consultation with program advisor		
Electives		
Select 3-7 credits of music and non-music electives in consultation with the program advisor		3-7

[1] Note: MUP 4470 and MUP 4480 must be elected concurrently with MUP Major Private Instruction.

Electives: Music and non-music electives selected in consultation with the program advisor (3-7 Credits)

Music Minor

The Music Department offers a minor in music for undergraduate students majoring in other disciplines. Requirements for the music minor consist of a minimum of twenty-two credits in the following courses:

Code	Title	Credits
Music Theory and Ear Training		
MUT 1140	Theory I	3
MUT 1150	Ear Training I	1
MUT 1160	Theory II	3
MUT 1170	Ear Training II	1
MUT 2140	Theory III	3
MUT 2150	Ear Training III	1
Music History		
Select two of the following:		6
MUH 1345	Music Cultures	
MUH 3310	Music History and Literature I	
MUH 3320	Music History and Literature II	
MUH 3330	Music History and Literature III	
Performance Ensemble		
Select four credits in one ensemble from the following:		4
MUA 2800	University Bands	
MUA 2810	University Symphony Orchestra	
MUA 2820	Jazz Big Band	
MUA 2822	Jazz Guitar Ensemble	
MUA 2840	Choral Union	
MUA 2850	Concert Chorale	
Total Credits		22

Jazz Studies Minor for Instrumental Music Education Majors

The minor in jazz studies is designed for instrumental music education majors who wish to gain experience in jazz. Requirements for the jazz studies minor consist of eighteen credits in the following courses:

Code	Title	Credits
Music History and Theory		
MUH 3360	Jazz History	3
MUT 2120	Jazz Theory and Harmony	3
MUT 2885	Jazz Improvisation I	1
MUT 2887	Jazz Improvisation II	1
MUT 5110	Jazz Arranging and Composition I	3
MUT 5120	Jazz Arranging and Composition II	3
Ensemble and Piano Competency		
MUA 2820	Jazz Big Band	1
MUA 2826	Jazz Combos	1
MUA 3795	Advanced Piano Skills	2
Total Credits		18

Music Technology Minor

The Music Department offers a minor in music technology for undergraduate students majoring in other disciplines. The program is designed for the students who wish to learn fundamental knowledge in sound engineering and electronic music production.

Students pursuing the minor in Music Technology must complete a minimum of 18 credits by taking the classes listed below.

Code	Title	Credits
MUA 2500	Music Technology	3
MUA 2510	Studio Recording Techniques	2
MUA 2530	Electronic Music Synthesis	3
MUA 3510	Mixing and Mastering	2
MUA 3530	Sound Design	3
Select two of the following:		5-7
MUA 3550	Advanced Studio Techniques	
MUA 4010	Audio Electronics	
MUA 4020	Theories of Electronic Music	
MUA 4030	Sound Design for Visual Media	
MUA 4040	Electroacoustic Music	
MUT 5280	Interactive Electronic Music Composition	
PHY 3100	The Sounds of Music	
Total Credits		18-20

Theatre and Dance

Office: 3226 Old Main; 313-577-3508
Chairperson: John Wolf
http://www.theatreanddance.wayne.edu

The Theatre and Dance Programs prepares students for professional careers as performing artists, choreographers, designer/technicians, stage managers, dance teachers, and informed audience members within the urban, metropolitan context of Wayne State University. The Department is committed to providing student the opportunity to develop within their disciplines through an extensive performance program that includes eighteen theatrical productions and dance concerts, four community outreach performance companies that target the city schools, Summer Children's Theatre designed to bring affordable quality summer entertainment to the youth of Detroit, and Complexions Summer Ballet Intensive.

Theatre and Dance Mission Statement: We engage, educate, and empower diverse/student/artists through the rigorous study, practice, and production of theatre and dance to enrich Detroit and the Global Community.

Theatre: The various programs of the Department of Theatre offer creative opportunities for theatrical learning and preprofessional training at every academic level. Undergraduate majors may prepare for careers in teaching, acting, design/technology and related fields. The Department sponsors a large number of production activities and practicum experiences including the Bonstelle Theatre, Studio Theatre, Director's Series, and Student Stage. Participation in these activities is available to all University students.

Dance: The Dance Program prepares students for professional careers as performing artists, choreographers, dance teachers, and informed dance audience members within the urban, metropolitan context of Wayne State University. The dance program offers curricular choices at the undergraduate and post-degree levels, integrating a thorough understanding of applied and theoretical principles of movement with the newest forms and ideas in contemporary dance performance, choreography, and dance education. Undergraduate studies in dance are reflected in the following major and minor designations: Major in Dance leading to the Bachelor of Science degree; Major in Dance leading to the Bachelor of Fine Arts degree; optional K-12 State of Michigan teaching certification for either the B.S. or B.F.A. Dance performance opportunities include The Wayne State University Dance Company, Dance Workshop, and To Sangana African Dance company. These are performing groups composed of skilled dance students who must qualify for membership through auditions. They present concerts, lecture/demonstrations, and performances on campus and in the community, choreographed by visiting artists, faculty, and talented students.

Dance

Performance Opportunities in Dance

The Wayne State University Dance Company, Dance Workshop, and To Sangana African Dance Company are performing groups composed of skilled dance students who must qualify for membership through auditions. They present concerts, lecture/demonstrations, and performances on campus and in the community, choreographed by visiting artists, faculty, and talented students. Students must have a minimum 2.5 overall GPA to participate in a performance ensemble.

Other Dance Study

The Dance Department also provides dance instruction for non-majors and develops general appreciation for dance as an art form.

Theatre

The Theatre program is designed to provide students with a solid foundation in all aspects of theatre and theatre production. Having completed a rigorous fundamental sequence of courses, students are prepared to choose their path of study (acting, design and technology, stage management, theatre management, history and dramaturgy, etc.). The extensive production program, including the Bonstelle Theatre, the Studio Theatre, Student Stage, and Summer Children's Theatre, present opportunity for students to practice and enhance their craft. Participation in these activities is available to all University students.

- Dance (B.F.A.) (p. 203)
- Dance (B.S.) (p. 205)
- Dance Minor (p. 210)
- Theatre (B.A.) (p. 208)
- Theatre (B.F.A.) (p. 206)
- General Theatre Minor (p. 210)
- Africana Theatre and Dance Minor (p. 209)
- Theatre Design and Technology Minor (p. 211)
- Musical Theatre Minor (p. 210)
- Studio and Community Dance Minor (p. 210)
- Theatre Management Minor (p. 211)

Dance (B.F.A.)

The Bachelor of Fine Arts with a major in dance provides a professional degree program for talented students with prior dance experience and skills who seek professional careers as performing artists and choreographers. Dance technique and the history, philosophies, and aesthetics of dance are all central to this program.

Admission Requirements

Admission to this program is contingent upon satisfaction of the general requirements for undergraduate admission (p. 22) to the University and a successful audition conducted by the Department faculty. Audition dates are scheduled each December and February in the year prior to admission. Prospective students should contact the Theatre and Dance Office for audition schedule information. Entering students are required to consult the Departmental advising staff prior to their first registration for classes.

All B.F.A. dance majors must be enrolled in appropriate level modern and ballet technique classes each semester and evidence successful progress in their respective degree programs in order to maintain dance major status. Any dance major who does not comply and/or does not register and complete appropriate dance coursework for one semester MUST AUDITION FOR THE DANCE PROGRAM for re-admission. Students out of the dance program for two semesters or more are rarely re-admitted to the program.

Candidates must complete a minimum of 120 credits in course work, including satisfaction of the University General Education requirements (p. 34), College degree requirements (p. 175) and a minimum of eighty-eight credits in dance courses (specified below). B.F.A students must comply with the following department policies – any student who does not meet these standards will be placed on Departmental probation and may be denied continuation in the program: the credits in specified Dance courses must be completed with grades of C minus or better; dance technique and choreography classes must be completed with a B plus or better; and a 3.0 cumulative g.p.a must be maintained. Students must be current in their plan of work and all Basic Competency courses must be completed prior to enrolling in the Capstone course.

All course work must be completed in accordance with the academic procedures of the University (p. 11) and the College of Fine, Performing and Communication Arts (p. 175) governing undergraduate scholarship and degrees, as well as with the requirements of the Maggie Allesee Department of Theatre and Dance.

General Education Course Progress: Majors must complete the Basic Composition (BC) requirement by the time forty-five credits have been

earned, and the Oral Communication (OC) and Intermediate Composition (IC) requirement by the time sixty credits have been earned. Failure to meet these limits on matriculation will result in the student being placed on departmental probation: the student will be ineligible to be cast in or participate as a member of the artistic/production staff of department productions. Transfer students will be reviewed upon entry into the major for compliance with these standards and advised as needed.

B.F.A. Major Requirements

Code	Title	Credits
Dance Studies		
DNC 0512	Pilates Equipment Lab (six semesters)	0
DNC 1300	Pilates Mat for Performing Artists	1
DNC 1305	Pilates Reformer for Dancers	1
DNC 1330	Production Practicum (two semesters)	2
DNC 2300	History of Dance to 1800	3
DNC 2310	History of Dance from 1800 to the Present	3
DNC 2311	Issues and Trends in Contemporary Dance	2
DNC 2410	Music and Dance Relationships	3
DNC 2500	Choreography I	2
DNC 3180	Dance Kinesiology	3
DNC 3190	Movement Analysis	3
DNC 3310	Dance Production	3
DNC 3500	Choreography II	2
DNC 5560	Choreography III	2
Select one of the following:		3
DNC 5810	Teaching Creative Dance for Children	
DNC 3810	Dance Pedagogy	
DNC 4810	Dance Teaching Methods	
DNC 5993	Writing Intensive Course in Dance	0
Performance		
DNC 2010	Contemporary Dance II: Part I	2
DNC 2020	Contemporary Dance II: Part II	2
DNC 2460	Dance Improvisation	2
DNC 2600	African Dance II	2
DNC 3010	Contemporary Dance III	2
DNC 4010	Contemporary Dance IV (four semesters. Max. 16)	8
Select eight semesters at two credits per semester with at least two semesters of 4200 from the following:		16
DNC 1220	Fundamentals of Classic Ballet II (Max. 8)	
DNC 3200	Ballet III (Max. 16)	
DNC 3220	Ballet Pointe Technique	
DNC 4200	Ballet IV (Max. 16)	
Select six credits of the following:		6
DNC 5000	Performance Tour	
DNC 5610	Dance Company I	
DNC 5800	Repertory	
Capstone		
DNC 5996	Senior Capstone Research	3
General Education Requirements		
DNC 2000	Introduction to World Dance	3
DNC 2400	Introduction to African Dance	3
Cognate Requirements		
Select two of the following:		6-7
AH 1110	Survey of Art History: Ancient through Medieval	
or AH 1120	Survey of Art History: Renaissance through Modern	
COM 1600	Introduction to Audio-Television-Film Production	
MUH 1340	Music Appreciation: World Music	
MUH 1370	Music Appreciation: Beginnings to the Present	
THR 1010	Introduction to the Theatre	
Total Credits		88-89

Performance Opportunities

There are three performance ensembles: the W.S.U. Dance Company One, Dance Workshop, and To Sangana African Dance Company composed of skilled dance students who must qualify for membership through auditions. They present concerts, lecture/demonstrations, and performances on campus and in the community, choreographed by visiting artists, faculty, and talented students. Students must have a minimum 2.5 overall g.p.a. to participate in a performance ensemble.

Dance Honors Program (B.S. and B.F.A. degrees)

In order to enter the departmental honors program students must have achieved academic excellence in previous work, such as a high school g.p.a. of 3.5 or a college or university g.p.a. of 3.3. Students must meet all regular major requirements including the following: three honors-option courses within their major taught by full-time faculty members (internships cannot satisfy this requirement), at least one 4000-level seminar offered through the Liberal Arts Honors Program, a senior honors thesis under the direction of a faculty advisor in their major area (DNC 5997) and maintain a minimum g.p.a. of 3.3 cumulative and in the major.

Dance Honors Curriculum (15 credits required)

Code	Title	Credits
Select the Honors Option in three of the following:		9-10
DNC 2000	Introduction to World Dance	
DNC 2300	History of Dance to 1800	
DNC 2310	History of Dance from 1800 to the Present	
DNC 3180	Dance Kinesiology	
DNC 3310	Dance Production	
DNC 3810	Dance Pedagogy	
DNC 4810	Dance Teaching Methods	
DNC 5810	Teaching Creative Dance for Children	
DNC 5997	Departmental Honors Thesis	3
HON 42xx - 4200 Level Seminar		3
Total Credits		15-16

Student must maintain an overall 3.3 g.p.a.

For additional information, students should consult the Irvin D. Reid Honors College (http://www.honors.wayne.edu).

Dance Teaching Majors (B.F.A. and B.S. Programs)

Professional Education Sequence: The additional following courses are required for a K-12 teaching major in dance, K-12 certification, and a major in dance, secondary certification for both the B.F.A. and the B.S. degrees:

Code	Title	Credits
DNC 3190	Movement Analysis	3
DNC 3810	Dance Pedagogy	3
DNC 4410	Student Teaching and Seminar I	5
DNC 4420	Student Teaching and Seminar II	5
DNC 4810	Dance Teaching Methods	3

DNC 4820	Assisting in Dance	1
DNC 4910	Dance in Community	3
DNC 5810	Teaching Creative Dance for Children	3
DNC 5830	Field Work in Creative Dance	2-8
EDP 5480	Adolescent Psychology	3
LFA 2330	First Aid and CPR	3
or HE 3300	Health of the School Child	
RLL 6121	Teaching Reading in the Content Areas: Grades 6-12	3
Total Credits		37-43

Post-Degree Studies in Dance

Students who have completed a dance major at another University program may be able to add Teacher Certification by completing the Dance Education Major requirements. Students must apply to the College of Education and to the Dance Department.

All course work must be completed in accordance with the academic procedures of the University (p. 11) and the College of Fine, Performing and Communication Arts (p. 175) governing undergraduate scholarship and degrees, as well as with the requirements of the Maggie Allesee Department of Theatre and Dance.

Dance (B.S.)

This degree program is for students with prior dance experience who wish to combine university-level dance studies with targeted general study in the arts and sciences. The Bachelor of Science in Dance offers an integrative program of dance professions, culture and community providing students multiple opportunities to enhance technical skill, investigate shifting social and global concerns, and cultivate innovative approaches for dance career preparation in diverse contexts and related professions.

Admission Requirements

Admission to this program is contingent upon satisfaction of the general requirements for undergraduate admission (p. 22) to the University and a successful audition conducted by the Department faculty. Audition dates are scheduled each November, December and February in the year prior to admission; prospective students should contact the Theatre and Dance Office (http://theatreanddance.wayne.edu/dance) for audition schedule information. Entering students are required to consult the Departmental advising staff prior to their first registration for classes.

All B.S. dance majors must be enrolled in required curriculum each semester and evidence successful progress in the B.S. degree program in order to maintain dance major status. Any dance major who does not comply and/or does not register and complete appropriate dance coursework for one semester MUST AUDITION FOR THE DANCE PROGRAM for re-admission. Students out of the dance program for two semesters or more are rarely re-admitted to the program.

Candidates must complete a minimum of 120 credits in course work, including satisfaction of the University General Education requirements (p. 34), College degree requirements (p. 175), minimum fifty-nine credits in dance courses (specified below) and minimum twenty-nine credits in electives. B.S students must comply with the following department policies – any student who does not meet these standards will be placed on Departmental probation and may be denied continuation in the program: the credits in specified Dance courses must be completed with grades of C minus or better and 2.5 cumulative g.p.a must be maintained. Students must be current in their plan of work and all Basic Competency courses must be completed prior to enrolling in the Capstone course.

All course work must be completed in accordance with the academic procedures of the University (p. 11) and the College of Fine, Performing and Communication Arts (p. 175) governing undergraduate scholarship and degrees, as well as with the requirements of the Maggie Allesee Department of Theatre and Dance.

General Education Course Progress: majors must complete the Basic Composition (BC) requirement by the time forty-five credits have been earned, the Oral Communication (OC) and Intermediate Composition (IC) requirement by the time sixty credits have been earned. Failure to meet these limits on matriculation will result in the student being placed on departmental probation: the student will be ineligible to be cast in or participate as a member of the artistic/production staff of department productions. Transfer students will be reviewed upon entry into the major for compliance with these standards and advised as needed.

B.S. Major Requirements

Code	Title	Credits
Dance Studies		
DNC 1300	Pilates Mat for Performing Artists	1
DNC 1330	Production Practicum	1
DNC 2310	History of Dance from 1800 to the Present	3
DNC 2410	Music and Dance Relationships	3
DNC 2500	Choreography I	2
DNC 3180	Dance Kinesiology	3
DNC 3310	Dance Production	3
DNC 5993	Writing Intensive Course in Dance	0
Dance Professions		
DNC 1810	Introduction to Dance Professions	3
DNC 3810	Dance Pedagogy	3
DNC 4910	Dance in Community	3
DNC 5910	Dance Professions Seminar (includes internship or fieldwork, Online course)	3
Performance/Research		
DNC 2460	Dance Improvisation	2
DNC 5998	Professions Capstone Research	3
Select two credits of the following:		2
DNC 5000	Performance Tour	
DNC 5610	Dance Company I (Max. 2)	
DNC 5800	Repertory	
Select 12 credits of the following:		12
DNC 1010	Introduction to Contemporary Dance	
DNC 1020	Contemporary Dance I (Max. 6)	
DNC 1210	Fundamentals of Classic Ballet I (Max. 8)	
DNC 1220	Fundamentals of Classic Ballet II (Max. 8)	
DNC 2010	Contemporary Dance II: Part I (Max. 12)	
DNC 2020	Contemporary Dance II: Part II (Max. 12)	
DNC 2600	African Dance II (Max. 8)	
DNC 2610	Jazz I (Max. 8)	
DNC 3010	Contemporary Dance III (Max. 8)	
DNC 3200	Ballet III (Max. 16)	
DNC 3410	Jazz II (Max. 4)	
DNC 4010	Contemporary Dance IV (Max. 16)	
DNC 4200	Ballet IV (Max. 16)	
DNC 4610	Jazz III (Max. 2)	
General Education Requirement		
DNC 2000	Introduction to World Dance	3
DNC 2400	Introduction to African Dance	3

Cognate Requirements		
Select two of the following:		6-7
AH 1110	Survey of Art History: Ancient through Medieval	
or AH 1120	Survey of Art History: Renaissance through Modern	
COM 1600	Introduction to Audio-Television-Film Production	
COM 3170	Fundamentals of Public Relations (Pre-req: COM 1010)	
MUH 1340	Music Appreciation: World Music	
MUH 1370	Music Appreciation: Beginnings to the Present	
THR 1010	Introduction to the Theatre	
Total Credits		59-60

Dance Honors Program (B.S. and B.F.A. degrees)

In order to enter the departmental honors program students must have achieved academic excellence in previous work, such as a high school g.p.a. of 3.5 or a college or university g.p.a. of 3.3. Students must meet all regular major requirements including the following: three honors-option courses within their major taught by full-time faculty members (internships cannot satisfy this requirement), at least one 4000-level seminar offered through the Liberal Arts Honors Program, a senior honors thesis under the direction of a faculty advisor in their major area (DNC 5997) and maintain a minimum g.p.a. of 3.3 cumulative and in the major.

Dance Honors Curriculum (15 credits required)

Code	Title	Credits
Select the Honors Option in three of the following:		9-10
DNC 2000	Introduction to World Dance	
DNC 2300	History of Dance to 1800	
DNC 2310	History of Dance from 1800 to the Present	
DNC 3180	Dance Kinesiology	
DNC 3310	Dance Production	
DNC 3810	Dance Pedagogy	
DNC 4810	Dance Teaching Methods	
DNC 5810	Teaching Creative Dance for Children	
DNC 5997	Departmental Honors Thesis	3
HON 42xx - 4200 Level Seminar		3
Total Credits		15-16

Student must maintain an overall 3.3 g.p.a.

For additional information, students should consult the Irvin D. Reid Honors College (http://www.honors.wayne.edu).

Dance Teaching Majors (B.F.A. and B.S. Programs)

Professional Education Sequence: The additional following courses are required for a K-12 teaching major in dance, K-12 certification, and a major in dance, secondary certification for both the B.F.A. and the B.S. degrees:

Code	Title	Credits
DNC 3190	Movement Analysis	3
DNC 3810	Dance Pedagogy	3
DNC 4410	Student Teaching and Seminar I	5
DNC 4420	Student Teaching and Seminar II	5
DNC 4810	Dance Teaching Methods	3
DNC 4820	Assisting in Dance	1
DNC 4910	Dance in Community	3
DNC 5810	Teaching Creative Dance for Children	3
DNC 5830	Field Work in Creative Dance	2-8
EDP 5480	Adolescent Psychology	3
LFA 2330	First Aid and CPR	3
or HE 3300	Health of the School Child	
RLL 6121	Teaching Reading in the Content Areas: Grades 6-12	3
Total Credits		37-43

Post-Degree Studies in Dance

Students who have completed a dance major at another University program may be able to add Teacher Certification by completing the Dance Education Major requirements. Students must apply to the College of Education and to the Dance Department.

All course work must be completed in accordance with the academic procedures of the University (p. 11) and the College of Fine, Performing and Communication Arts (p. 175) governing undergraduate scholarship and degrees, as well as with the requirements of the Maggie Allesee Department of Theatre and Dance.

Theatre (B.F.A.)

The Bachelor of Fine Arts with a Major in Theatre is an intensive pre-professional curriculum designed to provide a strong foundation followed by rigorous professional training augmented with practical experience provided by the extensive production schedule. The B.F.A. program is divided into two areas: performance and design and technical theatre including stage management.

Admission Requirements

Admission requirements for the program are satisfied by the general requirements for undergraduate admission (p. 22) to the University, a minimum of forty-five credits, as well as through auditions and/or interviews after the completion of prerequisite courses and usually at the end of the Fall of the sophomore year.

Candidates must complete a minimum of 120 credits in course work, including satisfaction of the University General Education requirements (p. 34), College degree requirements (p. 175), and seventy-seven credits in theatre courses including the major requirements listed below. The minimum grade for each course required in the major, which must be taken in the Department of Theatre, must be no less than a C-minus in order for the course credit to count toward completion of the degree. B.F.A students must comply with the following department policies – any student who does not meet these standards will be placed on Departmental probation and may be denied continuation in the program: the seventy-seven credits in specified Theatre courses must be completed with grades of C minus or better and 3.0 cumulative g.p.a must be maintained. Students must be current in their plan of work and all Basic Competency courses must be completed prior to enrolling in the Capstone course.Departmental information published in this Bulletin is intended for use in conjunction with advising, but in all cases, regardless of advice given, students are responsible for meeting and satisfying requirements as set forth in this Bulletin.

All course work must be completed in accordance with the academic procedures of the University (p. 11) and the College of Fine, Performing and Communication Arts (p. 175) governing undergraduate scholarship and degrees, as well as with the requirements of the Maggie Allesee Department of Theatre and Dance.

General Education Course Progress

Majors must complete the Basic Composition (BC) requirement by the time forty-five credits have been earned, the Oral Communication (OC) and Intermediate Composition (IC) requirement by the time sixty credits have been earned. Failure to meet these limits on matriculation will result in the student being placed on departmental probation: the student will be ineligible to be cast in or participate as a member of the artistic/production staff of department productions. Transfer students will be reviewed upon entry into the major for compliance with these standards and advised as needed.

Major Fundamental Requirements

All students pursuing a Bachelor of Fine Arts (B.F.A.) degree in theatre must complete the following courses:

Code	Title	Credits
THR 1111	Fundamentals of Theatre	3
THR 1121	Play Analysis	3
THR 1211	Acting I	3
THR 1411	Fundamentals of Crafts: Scenery and Costumes	3
THR 1451	Principles of Makeup	1
THR 1461	Fundamentals of Crafts: Lighting and Stage Management	3
THR 5841	Theatre History I	3
Select one of the following:		3
THR 2220	Fundamentals of Voice and Movement	
THR 2301	Introduction to Design for the Theatre	
THR 3731	Applied Theatre Studies: Community Possibilities	
THR 3735	Applied Theatre Studies: Theatre in Education	
Total Credits		22

B.F.A. - Performance

Major Requirements: Students pursuing the Bachelor of Fine Arts degree (B.F.A.) in performance must complete a minimum of fifty-five credits, distributed as follows:

Code	Title	Credits
THR 5811	Development of the Drama I: Greek to Eighteenth Century	3
THR 5812	Development of the Drama II: Nineteenth Century to Modern	3
THR 5993	Writing Intensive Course in Theatre	0
History and Dramatic Literature		
Select one of the following:		3
THR 1030	Introduction to Black Theatre and Performance	
THR 1041	Musical Theatre Appreciation	
THR 5821/ AFS 5220	Black Dramatic Literature and Performance	
THR 5831	Pioneers of the Modern Theatre	
THR 5842	Theatre History II	
Theatre Practicum		
Select six credits of the following:		6
THR 2581	Theatre Studio - Performance (Max. 3)	
THR 2582	Theatre Studio - Scenery/Lighting (Max. 3)	
THR 2583	Theatre Studio - Costumes (Max. 3)	
THR 2584	Theatre Studio - Stage Management (Max. 3)	
THR 2585	Theatre Studio - Theatre Management (Max. 3)	
THR 2586	Theatre Studio - Running Crew (Max. 3)	
THR 2587	Theatre Studio - Production (Max. 3)	
Acting		
THR 1215	Acting II	3
THR 3211	Acting III	3
THR 3215	Acting IV	3
THR 4211	Acting V	3
THR 4271	Acting for the Camera	3
Movement		
THR 2221	Stage Movement I	2
THR 3221	Stage Movement II	2
THR 3225	Stage Movement III	2
THR 4221	Stage Movement IV	2
Voice		
THR 2231	Voice Lab I	2
THR 3231	Voice Lab II	2
THR 3235	Voice Lab III	2
THR 4231	Voice Lab IV	2
THR 4995	Theatre Capstone: Performance	3
THR Electives		6
Total Credits		55

Degree totals

Major Requirements: 55 credits
Major Fundamental Requirements: 22 credits
University Electives: 5 credits
University Requirements: 38 credits

Total Credits in Degree: 120 credits

B.F.A. - Design and Technical Theatre

Major Requirements: Students pursuing the Bachelor of Fine Arts degree (B.F.A.) in design and technical theatre must complete a minimum of fifty-five credits, distributed as follows

Code	Title	Credits
THR 3570	Technical Theatre Problems (8 required)	8
THR 4996	Theatre Capstone: Design and Technology	3
THR 5811	Development of the Drama I: Greek to Eighteenth Century	3
THR 5812	Development of the Drama II: Nineteenth Century to Modern	3
History and Dramatic LIterature		
Select one of the following:		3
THR 1030	Introduction to Black Theatre and Performance	
THR 1041	Musical Theatre Appreciation	
THR 5821/ AFS 5220	Black Dramatic Literature and Performance	
THR 5831	Pioneers of the Modern Theatre	
THR 5842	Theatre History II	
Theatre Practicum		
Select two credits of the following:		2
THR 2581	Theatre Studio - Performance (Max. 2)	
THR 2582	Theatre Studio - Scenery/Lighting (Max. 2)	
THR 2583	Theatre Studio - Costumes (Max. 2)	
THR 2584	Theatre Studio - Stage Management (Max. 2)	
THR 2585	Theatre Studio - Theatre Management (Max. 2)	
THR 2586	Theatre Studio - Running Crew (Max. 2)	
THR 2587	Theatre Studio - Production (Max. 2)	

Design		
Select two of the following:		6
THR 2611	Stage Management	
THR 5311	Stage Design	
THR 5321	Theatre Costuming I	
THR 5331	Stage Lighting	
Design/Tech Electives		
To be elected in consultation with academic advisor. Suggested courses per area of study are listed below		21
THR Electives		6
Total Credits		55

Suggested Electives

Code	Title	Credits
Costuming		
ADR 1050	Drawing I	3
ADR 1060	Drawing II	3
AFA 2410	Textiles	3
THR 5325	Entertainment Design - Costume I	2
THR 5451	Advanced Stage and Film Makeup	2
Scenery		
ADR 1050	Drawing I	3
ADR 1060	Drawing II	3
AIA 1610	Architectural Drafting and Perspective Drawing	3
THR 3411	Technical Production	3
THR 5315	Advanced Stage Design	3
THR 5422	Introduction to Scene Painting	3
THR 5426	Advanced Scene Painting	3
Lighting and Sound		
AIA 1610	Architectural Drafting and Perspective Drawing	3
COM 1600	Introduction to Audio-Television-Film Production	3
MUA 2500	Music Technology	3
THR 3411	Technical Production	3
THR 5335	Advanced Stage Lighting Design	3
Stage Management		
To be selected in consultation with an academic advisor		
COM 1600	Introduction to Audio-Television-Film Production	3
MUT 1100	Elementary Music Theory	3
THR 3651	Principles of Theatre Management	3
THR 5711	Play Direction	3

Theatre Honors Programs (B.F.A degrees)

In order to enter the Departmental honors program students must have achieved academic excellence in previous work, such as a high school g.p.a. of 3.5 or a college or university g.p.a. of 3.3. Students must meet all regular major requirements including: the three of the following honors-option courses within their major taught by full-time faculty members (internships cannot satisfy this requirement), at least one 4000-level seminar offered through the Liberal Arts Honors Program, a senior honors thesis under the direction of a faculty advisor in their major area (THR 4998) and maintain a minimum g.p.a. of 3.3 cumulative and in the major.

Bachelor of Fine Arts (B.F.A.) Departmental Honors in Theatre (fifteen credits)

Code	Title	Credits
Select the Honors Option in three of the following:		9
THR 5841	Theatre History I	
THR 5811	Development of the Drama I: Greek to Eighteenth Century	
THR 5842	Theatre History II	
THR 5821	Black Dramatic Literature and Performance	
THR 5831	Pioneers of the Modern Theatre	
THR 5812	Development of the Drama II: Nineteenth Century to Modern	
THR 5721	Playwriting	
Students may select the Honors Option in one of the following B.F.A. courses (three credits) to substitute for a course in the above requirement:		
THR 2301	Introduction to Design for the Theatre	
THR 3215	Acting IV	
or THR 4211	Acting V	
THR 5311	Stage Design	
THR 5325	Entertainment Design - Costume I	
THR 5331	Stage Lighting	
THR 4998	Capstone Honors Thesis	3
Honors Seminars [1]		3
Total Credits		15

[1] HON 4200-4280 Honors Seminars (select one)

Student must maintain an overall 3.3 g.p.a.

For additional information, students should consult the Irvin D. Reid Honors College (http://www.honors.wayne.edu).

Theatre (B.A.)

The Bachelor of Arts with a Major in Theatre is designed to introduce students to the multiple facets of theatre scholarship and theatre practice. It provides a flexible and extensive education in dramatic literature, theatre history, performance practice and theatrical design for students interested in careers in theatre and related entertainment arts, education, communication and television, and other professions.

Admission Requirements

Admission requirements for the program include an audition or interview with the Theatre Faculty and satisfying the general requirements for undergraduate admission (p. 22) to the University.

Matriculation: All students in baccalaureate theatre degree programs begin as B.A. students and subsequently may change to the B.F.A. program depending on interest and ability. Classes for theatre students begin immediately in the freshman year. Students should consult with departmental advisors before beginning the program.

Candidates must complete a minimum of 120 credits in course work, including satisfaction of the University General Education requirements (p. 34), College degree requirements (p. 175), and specific theatre courses required in the individual degree and/or concentrations. The minimum grade for each course required in the major, which must be taken in the Department of Theatre, must be no less than a C-minus in order for the course credit to count toward completion of the degree.Students must be current in their plan of work and all Basic Competency courses must

be completed prior to enrolling in the Capstone course. Departmental information published in this Bulletin is intended for use in conjunction with advising, but in all cases, regardless of advice given, students are responsible for meeting and satisfying requirements as set forth in this Bulletin.

All course work must be completed in accordance with the academic procedures of the University (p. 11) and the College of Fine, Performing and Communication Arts (p. 175) governing undergraduate scholarship and degrees, as well as with the requirements of the Maggie Allesee Department of Theatre and Dance.

General Education Course Progress: Majors must complete the Basic Composition (BC) requirement by the time forty-five credits have been earned, the Oral Communication (OC) and Intermediate Composition (IC) requirement by the time sixty credits have been earned. Failure to meet these limits on matriculation will result in the student being placed on departmental probation: the student will be ineligible to be cast in or participate as a member of the artistic/production staff of department productions. Transfer students will be reviewed upon entry into the major for compliance with these standards and advised as needed.

Major Fundamental Requirements: All students pursuing a Bachelor of Arts degree in theatre must complete the following courses:

Code	Title	Credits
THR 1111	Fundamentals of Theatre	3
THR 1121	Play Analysis	3
THR 1211	Acting I	3
THR 1411	Fundamentals of Crafts: Scenery and Costumes	3
THR 1451	Principles of Makeup	1
THR 1461	Fundamentals of Crafts: Lighting and Stage Management	3
THR 5841	Theatre History I	3
Select one of the following:		3
THR 2220	Fundamentals of Voice and Movement	
THR 2301	Introduction to Design for the Theatre	
THR 3731	Applied Theatre Studies: Community Possibilities	
THR 3735	Applied Theatre Studies: Theatre in Education	
Total Credits		22

Major Requirements: Students pursuing the Bachelor of Arts degree must complete a minimum of forty-five credits, distributed as below.

Code	Title	Credits
THR 5811	Development of the Drama I: Greek to Eighteenth Century	3
THR 5812	Development of the Drama II: Nineteenth Century to Modern	3
THR 5993	Writing Intensive Course in Theatre	0
THR 4997	Theatre Capstone Experience	3
History and Dramatic Literature		
Select one of the following:		3
THR 1030	Introduction to Black Theatre and Performance	
THR 1041	Musical Theatre Appreciation	
THR 5821/ AFS 5220	Black Dramatic Literature and Performance	
THR 5831	Pioneers of the Modern Theatre	
THR 5842	Theatre History II	
Theatre Practicum		
Select six credits of the following:		6
THR 2581	Theatre Studio - Performance (Max. 3)	
THR 2582	Theatre Studio - Scenery/Lighting (Max. 3)	
THR 2583	Theatre Studio - Costumes (Max. 3)	
THR 2584	Theatre Studio - Stage Management (Max. 3)	
THR 2585	Theatre Studio - Theatre Management (Max. 3)	
THR 2586	Theatre Studio - Running Crew (Max. 3)	
THR 2587	Theatre Studio - Production (Max. 3)	
Department Electives		
Select 5-6 credits of THR courses chosen in consulatation with academic advisor		5-6
Total Credits		23-24

Theatre Honors Programs (B.A. degrees)

In order to enter the Departmental honors program students must have achieved academic excellence in previous work, such as a high school G.P.A. of 3.5 or a college or university G.P.A. of 3.3. Students must meet all regular major requirements including: three of the following honors-option courses within their major taught by full-time faculty members (internships cannot satisfy this requirement), at least one 4000-level seminar offered through the Liberal Arts Honors Program, a senior honors thesis under the direction of a faculty advisor in their major area (THR 4998) and maintain a minimum G.P.A. of 3.3 cumulative and in the major.

Bachelor of Arts - Departmental Honors in Theatre Option (fifteen credits)

Code	Title	Credits
Select the Honors Option in three of the following:		9
THR 5721	Playwriting	
THR 5811	Development of the Drama I: Greek to Eighteenth Century	
THR 5812	Development of the Drama II: Nineteenth Century to Modern	
THR 5821	Black Dramatic Literature and Performance	
THR 5831	Pioneers of the Modern Theatre	
THR 5841	Theatre History I	
THR 5842	Theatre History II	
THR 4998	Capstone Honors Thesis	3
Honors Seminars [1]		3
Total Credits		15

[1] HON 4200-4280 Honors Seminars (select one)

For additional information, students should consult the Irvin D. Reid Honors College (http://www.honors.wayne.edu).

Africana Theatre and Dance Minor

This minor offers an examination of key concepts in Africana theatre and dance theory and practice through the analysis of performance and popular culture.

A minor in this area requires:

Code	Title	Credits
DNC 2400	Introduction to African Dance	3
DNC 2600	African Dance II	2
THR 1030	Introduction to Black Theatre and Performance	3
THR 3811	Africana Theatre and Dance: Concepts and Practices	3

THR 5821	Black Dramatic Literature and Performance	3
Select four credits of the following:		4
AFS 2010	African American Culture: Historical and Aesthetic Roots	
AFS 2390	Introduction to African-American Literature: Literature and Writing	
DNC 2000	Introduction to World Dance	
THR 3581	Advanced Theatre Studio - Performance (max. 4 Cr.)	
or DNC 5610	Dance Company I	
THR 1010	Introduction to the Theatre	
Total Credits		18

Dance Minor

Completion of a minor in dance requires nineteen credits in dance classes including ten credits in technique classes and nine credits in academic dance classes. Students should consult with the Department Academic Advisor for approval of courses satisfying this requirement. The department will accept up to ten transfer credits towards the Dance minor. A minimum of four technique credits and three academic dance credits must be taken at WSU. All courses older than ten years are subject to department review.

General Theatre Minor

The minor is designed to be an overview of the theatre arts for those who wish to enhance their interests in theatre. It offers a variety of studies and practice courses across the discipline of theatre. The variety of offerings provide the opportunity to focus studies in the areas of acting, dramaturgy, or directing, if so desired.

A minor in this area requires:

Code	Title	Credits
THR 1010	Introduction to the Theatre	3
or THR 1111	Fundamentals of Theatre	
THR 1121	Play Analysis	3
Select 12 additional credits of the following:		12
THR 1030	Introduction to Black Theatre and Performance	
THR 1211	Acting I	
THR 1411	Fundamentals of Crafts: Scenery and Costumes	
THR 1461	Fundamentals of Crafts: Lighting and Stage Management	
THR 2211	Acting: Scene Study	
THR 2301	Introduction to Design for the Theatre	
THR 2611	Stage Management	
THR 3651	Principles of Theatre Management	
THR 3731	Applied Theatre Studies: Community Possibilities	
THR 5711	Play Direction	
THR 5721	Playwriting	
THR 5811	Development of the Drama I: Greek to Eighteenth Century	
THR 5812	Development of the Drama II: Nineteenth Century to Modern	
THR 5821	Black Dramatic Literature and Performance	
THR 5831	Pioneers of the Modern Theatre	
THR 5841	Theatre History I	
THR 5842	Theatre History II	
Total Credits		18

Musical Theatre Minor

This minor offers an opportunity for students to further develop their performance skills in musical theatre through course work and practical application. Students electing to declare the Minor in Musical Theatre may NOT count classes or credits required in their major toward the minor. Specifically:

- Theatre students may not apply to the minor credits earned in: Acting 1 and Acting II or Acting: Scene Study;
- Music students may not apply to the minor credits earned in: Private Voice, Elementary Music Theory, Ear Training 1, or Ear Training 2;
- Dance majors may not apply to the minor credits earned in: Modern Dance 1, Ballet 1, Tap Dance, Jazz Dance 1 or Jazz Dance II.

To receive the minor in Musical Theatre students must complete:

Code	Title	Credits
THR 1041	Musical Theatre Appreciation	3
THR 2251	Musical Theatre Performance I	3
Select two credits of the following:		2
THR 3581	Advanced Theatre Studio - Performance	
THR 2251	Musical Theatre Performance I	
Select 10 or 11 credits of the following:		10-11
DNC 1010	Introduction to Contemporary Dance	
DNC 1210	Fundamentals of Classic Ballet I	
DNC 2610	Jazz I	
DNC 2620	Tap Dance	
DNC 3410	Jazz II	
MUP 1225	Voice: Secondary Instruction (max. 3 Cr.)	
MUT 1100	Elementary Music Theory	
MUT 1150	Ear Training I	
THR 1211	Acting I	
THR 2211	Acting: Scene Study	
THR 2255	Musical Theatre Performance II	
Non-dance majors must select four to six credits of DNC courses		4-6
Total Credits		22-25

Studio and Community Dance Minor

The Studio and Community Dance Minor provides students the opportunity to supplement their major field program with the rigorous study of private sector dance in studios and community settings. The program offers an artistic and academic environment that will enrich methods and skills in dance teaching and pedagogy, dance kinesiology, outreach, and community engagement, while stimulating students' creativity and innovation.

The Studio and Community Dance Minor requires the completion of 20 credits.

Code	Title	Credits
Core Courses		15
DNC 3180	Dance Kinesiology	
DNC 3810	Dance Pedagogy	
DNC 4810	Dance Teaching Methods	
DNC 4910	Dance in Community	

THR 3671	Theatre Management: Marketing and Public Relations	
Elective Courses		
Select 3 credits from the following courses:		3
DNC 1330	Production Practicum	
DNC 2500	Choreography I	
ACC 3010	Introduction to Financial Accounting	
Select 2 credits of dance technique and movement:		2
Modern Dance		
DNC 1010	Introduction to Contemporary Dance	
DNC 1020	Contemporary Dance I	
DNC 2010	Contemporary Dance II: Part I	
DNC 2020	Contemporary Dance II: Part II	
DNC 3010	Contemporary Dance III	
DNC 4010	Contemporary Dance IV	
Ballet		
DNC 1210	Fundamentals of Classic Ballet I	
DNC 1220	Fundamentals of Classic Ballet II	
DNC 2225	Contemporary Ballet	
DNC 3200	Ballet III	
DNC 4200	Ballet IV	
Jazz Dance		
DNC 2610	Jazz I	
DNC 3410	Jazz II	
DNC 4610	Jazz III	
African Dance		
DNC 2600	African Dance II	
Pilates Mat for Performing Artists		
DNC 1300	Pilates Mat for Performing Artists	

Theatre Design and Technology Minor

The design and technology minor provides students in related areas of study with the opportunity to enhance and apply their design and/or technical and craft skills in a theatrical context.

A minor in this area requires:

Code	Title	Credits
THR 1010	Introduction to the Theatre	3
or THR 1111	Fundamentals of Theatre	
THR 1121	Play Analysis	3
THR 2301	Introduction to Design for the Theatre	3
Select nine elective credits of the following in consultation with a departmental advisor:		9
THR 1411	Fundamentals of Crafts: Scenery and Costumes	
THR 1461	Fundamentals of Crafts: Lighting and Stage Management	
THR 2611	Stage Management	
THR 3582	Advanced Theatre Studio - Scenery/Lighting [1]	
THR 3583	Advanced Theatre Studio - Costumes [1]	
THR 3584	Advanced Theatre Studio - Stage Management [1]	
THR 3586	Advanced Theatre Studio - Running Crew [1]	
THR 5311	Stage Design	
THR 5315	Advanced Stage Design	
THR 5321	Theatre Costuming I	
THR 5325	Entertainment Design - Costume I	
THR 5331	Stage Lighting	
THR 5335	Advanced Stage Lighting Design	
THR 5422	Introduction to Scene Painting	
Total Credits		18

[1] Max 3 cr. from THR 3582, THR 3583, THR 3584 and/or THR 3586

Theatre Management Minor

This minor provides students in related areas of study with the opportunity to expand management, marketing, and public relations skills with direct application and practice in theatre management.

A minor in this area requires:

Code	Title	Credits
THR 1010	Introduction to the Theatre	3
or THR 1111	Fundamentals of Theatre	
THR 3585	Advanced Theatre Studio - Theatre Management	1
THR 3651	Principles of Theatre Management	3
THR 3671	Theatre Management: Marketing and Public Relations	3
THR 3675	Theatre Management: Marketing Design and Layout	3
THR 3681	Theatre Management: Patron Services and Development	3
Total Credits		16

IRVIN D. REID HONORS COLLEGE

Dean: John Corvino

The Irvin D. Reid Honors College offers students a comprehensive curriculum that promotes achievement, academic excellence, graduation and orientation to a successful career.

The Honors College is city-based and service-oriented. The college challenges students to engage the world around them as problem-solvers and leaders. Our program requires that students inform themselves about what it means to be citizens, of this city, this country, and the world. Honors gives students tools to be catalysts for innovation and improvement, and the skills necessary to create effective solutions.

Benefits include Honors advising, guest lectures, local and national research/presentation opportunities, access to Honors living and learning communities, designated Honors floors in the residence halls, an Honors Student Association, peer advisors, Honors pre-priority registration, and more.

Mission of the Honors College

The Irvin D. Reid Honors College provides Wayne State University's highest achieving undergraduate students the opportunity to become members of an engaged and dynamic academic community through a curriculum that is challenging, innovative, and interdisciplinary. Honors courses enrich undergraduate education, providing a unique set of experiences that integrate our four defining pillars:

- community engagement,
- service-learning,
- undergraduate research, and
- career exploration.

Students who are admitted to the Honors College as current WSU students or as transfer students are encouraged to pursue Honors in their major, to participate in the Honors community and to take part in service opportunities, to join the Honors Student Association (HSA) and to elect Honors sections of General Education courses. Interested students must submit an application to the Honors College (http://honors.wayne.edu/future/apply.php).

Community (Year One)

The first of the four pillars that define the Honors College experience is community engagement, which is the focus of year one. Honors freshmen admitted to the college through Scholars Day are expected to take a two-semester sequence, HON 1000 and Honors PS 1010. HON 1000 is historical in orientation and will examine cities and the kinds of urban communities people have made, concentrating on city-making in North America. In the winter semester, Honors PS 1010 deals with the city and citizenship in a political context.

The aims of the Honors first-year curriculum are to understand urban communities in general and Detroit in particular, and to integrate Honors freshmen within the Honors community. Honors freshmen receive a Cultural Passport to acquaint them with some of the fine experiences Detroit has to offer.

Service (Year Two)

Year two involves service-learning, which takes the skills students have cultivated in the classroom and puts them to use in real-world situations. Service-learning courses provide valuable experience and help the communities WSU serves. These courses combine academic skills and hands-on practice. Students work with course instructors and classmates to perform research and reflect on elements of service-learning projects. Honors collaborates with community partners, organizations that know how to target needs and monitor students' work, to achieve maximum benefit for all participants.

To document completion of the service-learning requirement, students will register for HON 3000, a zero credit, pass-fail course, in the semester in which an approved service-learning course is elected for a minimum of three credits.

Research (Year Three)

In year three, students are encouraged to develop individual research projects. Hands-on research experience provides important preparation for graduate school as well as creating pre-professional opportunities. Students have the chance to work with faculty mentors and participate in research projects within their fields of interest.

The Honors' objective is to locate research as the dynamic element that brings together the whole of a student's academic experience at the university, from freshman year through graduation. By means of research projects, students become vital contributors to the research mission of the university; through undergraduate research, students take full advantage of the distinctive character of WSU as a Carnegie Foundation designated institution with "very high research activity."

Career (Year Four)

Students begin working on a career plan the day they enter the Honors College, which culminates in year four when they do a senior thesis project, HON 4998. This represents the culmination of their undergraduate work and is the first step toward a postgraduate career. The thesis is a creative project or a substantial research-based project written in collaboration with a faculty mentor. Completion of the thesis is required to graduate with Honors.

Honors offers students a career-building program beginning with the Honors first-year experience and including undergraduate research projects, faculty mentoring and scholarship opportunities. Honors distinction benefits students when applying for jobs, or for admission to graduate or professional study.

Bachelor's Degrees with University/ Departmental Honors options:

Mike Ilitch School of Business

Accounting: B.S., B.A.
Finance: B.S., B.A.
Global Supply Chain Management: B.S., B.A
Information Systems Management: B.S., B.A.
Management: B.S., B.A.
Marketing: B.S., B.A.

College of Education

Art Education: B.A., B.S.
Career and Technical Education: B.A., B.S.
Elementary Education: B.A., B.S.
English Education: B.A., B.S.
Exercise and Sport Science: B.A., B.S.
Foreign Language Education: B.A.
Health Education: B.S.
Kinesiology Pedagogy: Physical Education: B.S.
Mathematics Education: B.A., B.S.
Science Education: B.A., B.S.
Social Studies Education: B.A., B.S.

Special Education: B.A., B.S.

College of Engineering

Biomedical Engineering: B.S.
Chemical Engineering: B.S.
Civil Engineering: B.S.
Computer Science: B.S.
Electrical Engineering: B.S.
Industrial Engineering: B.S.
Mechanical Engineering: B.S.

College of Fine, Performing and Communication Arts

Art: B.A., B.F.A
Art History: B.A.
Communication: B.A.
Dance: B.S., B.F.A.
Film: B.A.
Journalism: B.A.
Music: B.A., B.M.
Public Relations: B.A.
Speech Communication: B.A.
Theatre: B.A., B.F.A.

College of Liberal Arts and Sciences

Anthropology: B.A.
Asian Studies: B.A.
Biological Sciences: B.A., B.S.
Biomedical Physics: B.S.
Chemistry: B.A., B.S.
Classics: B.A.
Criminal Justice: B.S.
Dietetics: B.S.
Economics: B.A.
English: B.A.
Environmental Science: B.S.
Geology: B.A., B.S.
German: B.A.
History: B.A.
Mathematics: B.S.
Near Eastern Studies: B.A.
Near Eastern Languages: B.A.
Nutrition and Food Science: B.A., B.S.
Philosophy: B.A.
Physics: B.A., B.S.
Political Science: B.A.
Psychology: B.A., B.S.
Public Affairs: B.P.A.
Romance Languages: B.A.
Slavic Studies: B.A.
Sociology: B.A., B.A.
Urban Studies: B.A.

College of Nursing

Nursing: B.S.N.

Eugene Applebaum College of Pharmacy and Health Sciences

Anatomic Pathologists' Assistant: B.S.

School of Social Work

Social Work: B.S.W.

Academic Regulations

For complete information regarding academic rules and regulations of the university, students should consult the general information (p. 11) section of this bulletin. The following additions and amendments apply to the Irvin D. Reid Honors College.

Academic Advising

Advising for Honors requirements is available on a walk-in basis on select days and via e-mail. All students are encouraged to consult their undergraduate advisor in their prospective major department.

Accelerated Graduate Enrollment Program ('AGRADE')

Accelerated Graduate Enrollment: Some departments of the university permit academically superior majors to petition for admission into the college's 'AGRADE' program. 'AGRADE' procedures enable qualified seniors to enroll simultaneously in the undergraduate and graduate programs and apply a maximum of fifteen credits towards both a bachelor's and master's degree in the major field. Students electing 'AGRADE' programs may expect to complete the bachelor's and master's degrees in five years of full-time study.

An 'AGRADE' applicant may petition the Graduate Committee of the major department for acceptance into the program no earlier than the semester in which ninety credits are completed. Applicants must have an overall grade point average at the *cum laude* level and not less than a 3.6 grade point average in the major courses already completed. If the student's petition is accepted, the student's faculty advisor shall develop a graduate Plan of Work, specifying the 'AGRADE' courses to be included in subsequent semesters.

Credits earned through 'AGRADE' are considered Honors credits towards graduation with University and/or Departmental Honors. Students are asked to submit a copy of the approved 'AGRADE' plan of work to the Honors Advisor. Each 'AGRADE' class will be processed as an Honors Option and the notation added to the student's transcript.

Courses completed as part of an approved AGRADE plan of work may be applied as Honors credits towards Departmental and/or University Honors. To receive Honors credit via Honors Option, students must submit a copy of the approved plan of work with the Honors academic advisor.

For more details about the 'AGRADE' program, contact the chairperson of the major department.

Attendance

Regularity in attendance and performance is necessary for success in college work. Attendance requirements will be announced by instructors at the beginning of each course.

Cheating and Plagiarism

The principle of honesty is recognized as fundamental to a scholarly community. Students are expected to honor this principle and instructors are expected to take appropriate action when instances of academic dishonesty are discovered. An instructor, on discovering such an instance, may give a failing grade on the assignment or for the course. The instructor has the responsibility of notifying the student of the alleged violation and the action being taken. Both the student and the instructor are entitled to academic due process in all such cases. Acts of dishonesty may lead to suspension or exclusion. Information on procedures is available in the Office of the Dean.

Extra Credits

Extra credits are credits taken in excess of the normal program load of eighteen credits. Students with 3.0 (or above) grade point averages may take more than eighteen credits when their proposed programs carry the approval of the Honors advisor.

Graduation with Academic Distinction

Graduation with distinction (*Summa Cum Laude, Magna Cum Laude*, and *Cum Laude*) is determined by the college granting the student's degree.

Normal Program Load

The requirements for graduation are based upon an average program of fifteen credits per semester for eight semesters. A normal program load should not exceed eighteen credits.

Because two hours of outside preparation are normally expected for each class hour, a fifteen credit program calls for approximately forty-five hours of class attendance and study per week. Students who undertake such a program should expect to give it their full time and energy. A few hours of employment a week may be safely added by capable students.

Probation

Low Grade Point Average: Honors students need a cumulative 3.30 or higher grade point average to maintain good standing in the Honors College. Honors academic status is assessed prior to fall pre-priority registration. A student may reapply to the Honors College once his/her cumulative grade point average is at 3.30 or above.

Grade Appeals Policy and Procedure

This policy applies to courses offered directly by the Honors College (e.g. HON 1000, the Honors sections of PS 1010, HON 42XX-level seminars, etc.). Grade appeals for Honors sections of other courses should be resolved through the home department where those courses are offered. If in doubt, students should consult the Honors Advisor when initiating an appeal.

It is the instructor's prerogative to evaluate student work and assign grades in accordance with his or her academic and professional judgment.

Grounds for appeals are:

1. the application of non-academic criteria in the grading process, as listed in the university's non-discrimination/affirmative action statute: race, color, sex (including gender identity), national origin, religion, age, sexual orientation, familial status, marital status, height, weight, disability, or veteran status;
2. sexual harassment or discrimination; or
3. evaluation of student work by criteria not directly reflective of performance relative to course requirements.

Coursework Grades

Disputes over coursework grades should be addressed informally between the student and the course instructor. If the student and instructor cannot reach a mutually agreeable resolution, the matter should be referred to the Dean of the College, who will initiate appropriate procedures for resolution.

Final Grades

In those instances where a student disputes the final grade assigned, the following steps should be taken to appeal the grade in question.

Informal Review

The student should discuss the disputed grade with the instructor of the course. If the dispute is not resolved informally, the student may initiate a formal appeal.

Formal Appeal Procedure

Within 30 calendar days following official notification of final grades for the term in which the disputed grade was awarded, and when the informal review fails to resolve the dispute, the student shall submit a written appeal detailing his/her objection, along with supporting documentation in writing, to the instructor. The instructor should respond in writing within 10 work days.

Matters not resolved at the instructor level may be appealed to the Dean's Office. A written appeal should be filed by the student within 10 work days following receipt of the instructor's written response. A file folder containing the course syllabus from the semester in which the student took the course, plus the student's letter, the instructor's letter, and the student's written rationale explaining why the Dean's Office should reconsider this appeal, should be sent to the Dean's Office. The student should forward to the instructor of the course a copy of the written appeal. Where appropriate, the Dean's Office may consult with a Grade Appeals Committee for advice in grade disputes. Students shall be notified in writing of the Dean's Office decision within 30 work days of receiving the request. The Dean's Office decision shall be the final decision at the college level.

University Level Academic Appeals Procedure

Following the Dean's final response, a student may request a formal review by the Provost.

Such requests are subject to the University Academic Appeal Procedure (p. 11) and must be submitted in writing, with a copy sent to the Dean of the College, within thirty (30) calendar days of the postmark on the Dean's final determination.

Irvin D. Reid Honors College Grade Appeal Procedure, revised March 31, 2015

Special Programs

Detroit Urban Scholars Program

The Irvin D. Reid Honors College of Wayne State University is home to the Detroit Urban Scholars program. This program is for incoming freshmen who graduated from a Detroit high school, are Detroit residents, and have shown not only an ability to excel in the academic arena but are also engaged in their communities through service and leadership.

B Start Program (Business Administration)

B Start (http://honors.wayne.edu/start-programs/b-start.php) is an innovative, five-year Honors College program that conditionally guarantees admission to the Master of Business Administration (M.B.A.) program in the Mike Ilitch School of Business. B Start trains future business leaders by emphasizing mentoring and research opportunities with business school faculty. As part of an introductory B Start course, students attend monthly seminars in the Mike Ilitch School of Business and are responsible for logging their activities in monthly journals.

Other Curricular Opportunities

CommunityEngagement@Wayne

To obtain the greatest benefit from their education, students need both academic courses and real-world experiences. CommunityEngagement@Wayne (http://communityengagement.wayne.edu) provides the mechanism to strengthen courses and implement service-learning opportunities

in the vibrant metropolitan Detroit community. Building on the Honors College mission of promoting informed, engaged citizenship, CommunityEngagement@Wayne provides faculty with the tools necessary to strengthen course content, students with the opportunity to apply classroom theories in hands-on experiences, and community organizations with the chance to receive assistance from some of Wayne State's most dedicated citizens.

Detroit Fellows Tutoring Project

Detroit Fellows earn two to four Honors credits while teaching reading skills to Detroit Public School students in kindergarten through fourth grade. This is a special opportunity for Honors College students and is open to all majors. On an hours-per-week basis Detroit Fellows work three hours (earning two credits), five hours (earning three credits) or seven hours (earning four credits) at a designated school. Tutors work during regularly scheduled school hours: 7:30 a.m. to 3:30 p.m.

Detroit Fellows receive training and participate in a weekly seminar to discuss various tutoring techniques. Writing assignments reflective of this experience and an end-of-semester evaluation are also required.

Emerging Scholars Program (ESP)

Wayne State University's Emerging Scholars Program (http://www.clas.wayne.edu/ceem/emerging-scholars) is a special Honors-level calculus and pre-calculus program designed to support students who want and/or need to excel in mathematics and who are willing to do the work required for such success. It is available to students in MAT 1800 (pre-calculus), MAT 2010 and MAT 2020. Honors credits are awarded for MAT 2010 and/or MAT 2020.

Any student who hopes to pursue a degree in science, engineering, medicine, mathematics or math education is strongly urged to take his or her math courses within ESP. Students enroll in designated sections of MAT 1800, MAT 2010 and MAT 2020, taught by specially trained faculty members. They also attend a two-hour workshop, twice a week, where they work together in groups on challenging problems, gaining a deeper understanding of the mathematics involved.

Honors Student Association (HSA)

The Honors Student Association (HSA) provides networking experiences for students from various academic disciplines throughout WSU. The organization also serves to provide Honors students with the opportunity to become involved in diverse social, academic, and service activities. The Honors Student Association has eight executive board members; the positions include: president, vice president, secretary, treasurer, two public relations officers, and two webmasters. Elections for executive board positions are held annually at the end of winter semester.

The faculty advisor for HSA is Rachel Pawlowski, the special initiatives coordinator for the Honors College.

Model United Nations (MUN)

The Honors College sponsors a Model United Nations (MUN) conference every October for high school students from Metropolitan Detroit. MUN helps students learn the art of diplomacy and compromise while better understanding how the United Nations operates. High school students are recruited to serve as MUN ambassadors, while Honors students provide leadership and recruit fellow students to serve as facilitators.

Study Abroad

The Honors College, in partnership with the Office for Study Abroad (p. 44), provides a number of opportunities for study and travel. The college encourages these learning experiences as ways for students to acquire broader perspectives and more deeply felt education than is often possible in the classroom. Study/travel options may be linked to the Junior/Senior seminar (HON 4260) and may meet the Foreign Competency (FC) University requirement. Some programs include service assignments and fulfill the Honors College service-learning (HON 3000) requirement. Past study trip destinations have included Belize, France, South Africa, Ghana and China.

Honors College Programs

University-wide Honors Curricula

Honors curricula are designed to meet the needs of highly motivated students with superior abilities. Honors courses are of four kinds: regular courses with Honors designated sections; Honors courses offered under various departmental subject areas (for a list of these see below); Honors College courses offered under the HON subject area code; and, regular courses taken as Honors caliber course work by individual students (see below under Honors-Option Course Work).

Many Honors courses fulfill University General Education requirements (p. 34) and there are no maximum credit restrictions on the number of Honors credits applicable towards graduation. Completion of any Honors course leads to Honors-designated transcript notation for the course.

Students whose cumulative grade point average (g.p.a.) is at least 3.3, but who are not formally admitted to the Honors College, are eligible to elect Honors courses to enrich their educational experiences. Such requests should be directed via e-mail to honors@wayne.edu

Students who are invited into the Honors College as incoming freshmen are eligible to pursue University Honors as well as Departmental Honors in their major. Students who are accepted to the Honors College as current Wayne State University students or as transfer students are invited to graduate with Departmental Honors.

Admission

Honors students are admitted to Wayne State University through the regular admission process; they are officially enrolled in the school/college sponsoring the major of their intended degree program, and obtain admission to the Honors College by one of the following methods:

Application to the Honors College

Currently matriculated Wayne State University students who have a cumulative postsecondary g.p.a. of 3.3 or above may apply for admission to the Honors College. Applications are available online (https://honors.wayne.edu/application). Applications are accepted on a continual basis and are processed in October, February, and June of each year.

Incoming transfer students who have a minimum of twelve credits and a cumulative g.p.a. of 3.3 or above will receive an invitation to the Honors College as part of the admission process, and do not need to apply separately.

Scholars Day

Incoming freshmen (high school seniors) must meet the published minimum criteria for consideration and have been admitted to the university by December 1. These students are eligible to be invited to Scholars Day and to be considered for scholarships and acceptance to the Honors College. Information is available online (http://www.scholarsday.wayne.edu).

College Requirements

To remain in the Honors College, a student normally will be expected to:

1. pursue University and/or Departmental Honors;
2. maintain a cumulative g.p.a. of 3.3 or higher; however, colleges/departments may establish a higher g.p.a. for retention in a college/department program; and
3. satisfy the University General Education requirements (p. 34).

A student whose cumulative g.p.a. falls below 3.3 and is, for that reason, dropped from the Honors College, may reapply when his/her cumulative g.p.a. is 3.3 or higher.

For Honors students entering as freshmen, HON 1000 and the Honors section of PS 1010 are required to be taken in Fall and Winter semesters, respectively.

Departmental Honors Requirements

Students seeking a degree with Departmental Honors must contact their major department or the Honors College for specific requirements (see the appropriate departmental section of this bulletin). However, all Departmental Honors programs require at least twelve credits in Honors-designated coursework, including:

1. a senior essay or thesis or project done in the student's major department, and
2. at least one 42xx-level seminar offered through the Honors College (HON 4200-4280), and
3. a minimum cumulative g.p.a. of 3.3 (higher in some departments) is required for graduation

Honors Degrees

Most departments offer Departmental Honors. Please visit the Honors website (http://www.honors.wayne.edu) or the Honors college for a current list of available programs. Graduation with University Honors is reserved for students who enter the Honors College as incoming freshmen who complete twenty-eight Honors credits as outlined under University Honors Requirements.

A student who satisfactorily completes a Departmental Honors curriculum or a University Honors curriculum will receive the appropriate Honors designation on both the diploma and the academic transcript. Approval of the Honors College is necessary for graduation with University Honors. Students who complete the requirements of both the university-wide Honors College and a college/department/school Honors Program shall have both designations on the transcript and the diploma. Only a single senior essay, thesis, or project shall be required unless a student is pursuing Departmental Honors in multiple majors.

University Honors Requirements

Students who have been invited to the Honors College as freshmen are expected to complete:

1. at least twenty-eight credits in Honors-designated course work, including HON 1000, and the Honors section of PS 1010;
2. the HON 3000.
3. a 42XX-level seminar offered by the Honors College (HON 4200-HON 4280);
4. a minimum three-credit Honors Thesis or creative project (HON 4998 or Departmental Honors thesis).

Honors-Option Course Work

The Honors Option allows a student in any course which is 2000 level or above and taught by a regular faculty member to elect Honors caliber coursework, provided the instructor agrees to furnish commensurate extra instruction. If a grade of 'B' (3.00) or above is earned in the course and in the additional work, the student will receive Honors credit for the course on his/her transcript. Application forms for the Honors Option are available in the Honors College office and online (http://www.honors.wayne.edu). The application form must be signed by the instructor and should be returned to the Honors College Office by the assigned due date on the form. At the end of the semester the instructor will be asked to submit a final grade for the Honors Option project and the final grade for the class via e-mail to honors@wayne.edu. The number of Honors credits assigned shall be equivalent to the number of credits allotted to the general section.

Service-Learning Requirement (HON 3000)

Effective Fall 2008, service-learning is required for graduation with University Honors. The purpose of the requirement is to better prepare students for productive lives in a diverse urban and global setting through community-based education and civic engagement. A student will pair HON 3000 (0 credits) with a service-learning course that is a minimum of 3 credits.

Objectives of the Honors Service-Learning Requirement are: to enhance academic learning opportunities by integrating theory with service to the community; to learn how to work effectively with diverse populations; to develop communication, negotiation, and problem solving abilities; and, to increase research skills.

Examples of service-learning opportunities include the Detroit Fellows Tutoring Project, specially-designated sections of General Education and department courses, and some study abroad experiences.

Honors Thesis

To graduate with University and/or Departmental Honors, students must complete an Honors thesis or creative project during junior/ senior year. The thesis or project must be supervised by a full-time member of a department and the paper must be a minimum of twenty pages in length. University Honors students should plan to take at least two semesters to complete the HON 4998 course. Departmental Honors students who complete a thesis course specific to their major department must follow departmental guidelines. Students pursuing both Department and University Honors may use the department thesis to fulfill the University Honors thesis requirement.

Honors Courses

HON 1000 The City: Changing Detroit Cr. 4
Satisfies General Education Requirement: Civic Literacy, Diversity Equity Incl Inquiry, Social Sciences
Honors 1000 is the first half of the Honors Foundation Sequence. The course explores the history and development of the city of Detroit, including the challenges of de-industrialization and segregation, and guides students through the steps of civic engagement including how to identify and specify social problems, formulate workable solutions and advocate effectively for their implementation. Offered Fall.

HON 1110 Passport to Detroit Cr. 1
Satisfies General Education Requirement: Wayne Experience
Passport to Detroit is a participatory-learning course designed to prepare students for life in college and life in Detroit designed to use the personal exploration of Detroit's geography and history as a frame through which incoming students develop (or improve) essential college-level skills. Offered Fall.
Restriction(s): Enrollment limited to students with a class of Freshman.

HON 3000 Field Learning Cr. 0
Required for all students graduating with University Honors. Students are involved in community-based education and promotion of civic engagement. Offered Every Term.
Restriction(s): Enrollment is limited to Undergraduate level students.

HON 4200 Seminar in Philosophy and Letters Cr. 3
Satisfies General Education Requirement: Cultural Inquiry, Philosophy Letters
Analysis of meanings given to human experience through study of philosophy or letters. Offered Yearly.
Repeatable for 9 Credits

HON 4220 Seminar in Life Science Cr. 3
Satisfies General Education Requirement: Life Sciences, Natural Scientific Inquiry
Analysis of aspects, methods, and important issues in various areas of the life sciences. Offered Yearly.
Repeatable for 9 Credits

HON 4230 Seminar in Physical Science Cr. 3
Satisfies General Education Requirement: Natural Scientific Inquiry, Physical Sciences
Analysis of modern theory and data, implications and possibilities in the physical sciences. Offered Yearly.
Repeatable for 9 Credits

HON 4250 Seminar: Global Perspectives on Historical Studies Cr. 3
Satisfies General Education Requirement: Global Learning Inquiry, Historical Studies
Studies of periods of history in which there has been major transition or change. Offered Yearly.
Repeatable for 9 Credits

HON 4260 Seminar in Foreign Culture Cr. 3
Satisfies General Education Requirement: Foreign Culture, Global Learning Inquiry
Humanistic or social science investigation of peoples and institutions in other cultures. Offered Yearly.
Repeatable for 9 Credits

HON 4280 General Honors Seminar Cr. 3
In-depth exploration of important concepts and approaches in liberal studies. Topics to be announced in Schedule of Classes. Offered Yearly.
Repeatable for 9 Credits

HON 4930 Detroit Fellows Tutoring Project Cr. 2-4
Community-based service-learning project designed to improve the reading skills of elementary school students through one-on-one mentoring. Monthly seminar sessions to discuss progress and techniques required. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Undergraduate level students.
Repeatable for 16 Credits

HON 4940 Service-Learning Internship Cr. 1-3
Service-learning project with a local community partner. Collateral reading, written work, arranged conferences with faculty supervisor. Offered Every Term.
Restriction(s): Enrollment is limited to Undergraduate level students.
Repeatable for 6 Credits

HON 4950 MedStart Seminar Cr. 2
Explorations of various dimensions of health care through shadowing, service, and attendance at the monthly seminars at the Wayne State University School of Medicine. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Undergraduate level students.
Repeatable for 16 Credits

HON 4970 BStart Seminar Cr. 1
Training of future leaders in business by emphasizing mentoring and research opportunities with business school faculty. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Undergraduate level students.
Repeatable for 8 Credits

HON 4980 University Scholars Seminar Cr. 1
International learning and experiences of designated scholarship students in the Honors College. Reflection and presentation on specific topics related to the local, regional, national and international landscapes. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Undergraduate level students.
Repeatable for 8 Credits

HON 4990 Honors Directed Study Cr. 1-4
Offered Yearly.
Repeatable for 8 Credits

HON 4998 University Honors Thesis Cr. 3-6
Independent research project, essay, or creative project. Students are responsible for identifying their own research project and full-time faculty member. At the end of the first semester a deferred grade of Y will be assigned, with a grade change processed at the completion of the thesis in a subsequent semester. Offered Every Term.

SCHOOL OF INFORMATION SCIENCES

Dean: Jon Cawthorne

The Information Profession

The School of Information Sciences (SIS) prepares information professionals to assume leadership roles in libraries and information organizations. By emphasizing the practical application of knowledge and skills, students are trained in the core principles of information management - information access, organization, services, and management - as well as emerging competencies such as digitization, competitive intelligence, information architecture, and website development. SIS faculty research issues that improve library and information services as an essential component to cultural enrichment, knowledge dissemination, economic development, and the overall quality of life.

Qualified information professionals work in varied settings all over the globe. SIS graduates work in libraries as well as diverse information careers in the public, private, and nonprofit sectors. As organizations continue to view their information as a critical resource and place greater importance on its cultivation, SIS graduates can be found enjoying engaging and exciting careers throughout business, law, health sciences, publishing, government, archives and museums, communications and media, engineering, academia, pre-K-12 education, information organizations and industries.

Graduate Degrees

The School of Information Sciences offers two master's level degree options. The Master of Library and Information Science (MLIS) degree is recognized by the American Library Association (ALA) as the first professional degree in this field and serves as the credential for entry-level professional employment. The Master of Science in Information Management (MSIM) expands the school's current Graduate Certificate in Information Management (GCIM) into a degree that complements the school's Master of Library and Information Science (MLIS) degree. The MSIM will appeal to prospective graduate students with an interest in working as information professionals in organizations and industries outside the typical venues for MLIS degree holders (e.g., libraries, archives, or school media centers) where a foundational core of library science coursework is not required.

Accreditation

The School of Information Sciences' MLIS degree has been accredited continuously by the American Library Association since 1967. The School's most recent continuing accreditation was granted by the ALA Committee on Accreditation in 2017. The School's next comprehensive accreditation review occurs in the Fall of 2023.

Mission and Goals of the School

Mission Statement

We combine theories with practices to educate leaders who advance the importance of information in society. We deliver accessible, high quality education incorporating professional scholarship and best practices. We focus on three pillars:

Library Users and Services
Information Management
Archives and Digital Content Management

Goals and Objectives

TEACHING EXCELLENCE: SIS will encourage and teach professional approaches and a service philosophy.

- SIS will educate students in the history, philosophies, theories, principles, policies, and ethics of library and information science.
- SIS will expose students to the historical, social, cultural, educational, political, and economic dimensions of information and information agencies.
- SIS will provide the skills and dispositions for excellence in information service delivery.
- SIS will continuously evaluate and apply evolving technologies to its teaching, learning, research, and service programs.

STUDENT SUCCESS: SIS will cultivate a culture of student success.

- SIS will incorporate career enhancement skills development into all courses.
- SIS will promote relationships between students and other members of the campus community who support student learning and success.
- SIS will deliver a "Distinctively Wayne State" experience that leverages our Detroit location, diversity, and academic and research excellence to better prepare students for success.
- SIS will stress the importance of lifelong learning and will promote opportunities to sustain professional growth and achievement, including career mentoring.

RESEARCH: SIS will foster, facilitate, and support research by faculty and students.

- SIS will support faculty research and scholarly communication.
- SIS will cultivate faculty engagement with student research experiences and skill development.
- SIS will encourage and support students in presenting their research in courses, at conferences, and through publication.

DIVERSITY AND INCLUSION: SIS will be engaged within the diverse communities and world of which we are a part.

- SIS will seek diversity among the faculty.
- SIS will seek diversity and facilitate inclusion among the student body.
- SIS will address the roles of library and information services in a diverse global society, paying particular attention to the underserved.
- SIS will facilitate student experience in multicultural and multiethnic information environments.

COMMUNITY ENGAGEMENT: SIS will practice and foster engagement in traditional as well as interdisciplinary research, scholarship, and practices that address important societal as well as information and library issues.

- SIS will engage the library community, alumni, and employers.
- SIS will promote commitment and involvement in professional associations and organizations.
- SIS will encourage involvement in the community and community organizations.
- SIS will support service activities and participation in leadership roles at the School, University, local, state, national, and international levels.

Technology Support

The School of Information Sciences provides SIS students, faculty, and staff with a variety of computing resources that support the School's

on-campus and online programs. The School offers students a variety of software products at no cost, including major productivity suites, powerful database software, diagramming tools, and current operating systems. The School provides free technical support to all of its students through several mediums, including email and over the phone. The School maintains a web server for student use, as well as provides access to synchronous online meeting tools for classes and student groups. SIS students have full access to the resources provided by University Computing and the University Library System, including public access computing labs, email and calendaring services, learning management systems, library databases, and full-text e-journals and other resources.

School of Information Sciences Undergraduate Program

Undergraduates interested in enrolling in information sciences courses should contact the School of Information Sciences regarding admission requirements, sequence of courses, the curriculum, career planning, professional development, job opportunities, and Senior Rule requirements. For more information about degree and certificates options offered by the School, please visit: http://sis.wayne.edu

LAW SCHOOL

Dean: Richard Bierschbach

Wayne State University Law School, founded in 1927, is located in the heart of Detroit's historic cultural center, offering a unique urban experience. Detroit's vibrant legal market - including government offices, state and federal courts, multinational corporations, unions and major law firms - provides students with a wide range of opportunities for employment and externships. Our students are bright, mature, conscientious and altruistic. They come from unique backgrounds and professions, some having previously served as doctors, musicians, actors, engineers and law enforcement officers before pursuing the law. Wayne Law also offers a network of more than 11,000 living alumni, including established leaders of the legal community, practicing throughout the nation and in more than a dozen foreign countries. Our expert faculty's nationally and internationally recognized scholarship adds depth to our students' understanding of legal theory, doctrine and practice. Wayne Law students, faculty and alumni are deeply engaged in the community and profession.

Accreditation

Wayne State University Law School is accredited by the American Bar Association and is a member of the Association of American Law Schools. The Law School has a chapter of the Order of the Coif, the national honorary society dedicated to the highest standards of legal scholarship.

Setting & Facilities

The Law School is a flagship unit of Wayne State University, a major metropolitan research university located in the heart of Midtown, about four miles from downtown Detroit. Within blocks of the Law School are the Detroit Public Library, Detroit Institute of Arts, Charles H. Wright Museum of African American History, Detroit Science Center and other cultural attractions. The city of Detroit shares an international border with Canada and offers access to Michigan's largest concentration of law firms and state and federal courts.

The Law School complex includes four buildings - Classroom Building, Damon J. Keith Center for Civil Rights, Law Building and Arthur Neef Law Library - with lounges, gathering areas and meeting rooms. The three-floor Arthur Neef Law Library offers print and digital resources, a computer lab, 14 study rooms and wireless access. Special collections cover antitrust law, international law, Jewish law and Michigan law.

Degrees

The Law School offers academic programs leading to the degrees of Juris Doctor (J.D.) (http://bulletins.wayne.edu/graduate/law-school/law-jd) and Master of Laws (LL.M.) (http://bulletins.wayne.edu/graduate/law-school/law-llm). The J.D. is a graduate degree requiring a baccalaureate degree as a prerequisite. The LL.M. is a graduate degree offered by the Law School in the fields of and corporate and finance law, labor and employment law, and taxation which requires the J.D. or its equivalent as a prerequisite. The Law School also participates in joint degree programs with other Schools and Colleges within the University.

Damon J. Keith Center for Civil Rights

The Damon J. Keith Center for Civil Rights at Wayne Law is a regional hub for civil rights teaching, research and advocacy, training and inspiring the next generation of civil rights leaders in honor of the legacy of Judge Damon J. Keith. At the center, stakeholders gather to analyze policy, law students teach a civil rights curriculum to high school students and leaders dive into the issues of the day, such as tax foreclosures, water shutoffs and police-community relations. The center welcomes the public for lectures by civil rights icons, supports community-based organizations and publishes scholarship about how the law and social justice impact one another. The center offers the nation's first and only repository dedicated to African-American legal history, along with a traveling exhibit about the 14th Amendment's guarantee of equal protection under the law.

In summer 2014, WSU was awarded a three-year, $1.3 million grant from the W.K. Kellogg Foundation to launch the Detroit Equity Action Lab at the Keith Center. Through this initiative, 60 leaders working in the many dimensions of racial equity, including arts and media, community development, education, environment, food security, health care and housing, will address issues of structural racism in Detroit.

Arthur Neef Law Library

The Arthur Neef Law Library provides a major legal research center for Wayne Law students and faculty. Its special collections include the Alwyn V. Freeman International Law Collection, Driker Antitrust Law Collection, Jewish Law Collection and a comprehensive collection of current and historical Michigan law materials that include the Michigan Supreme Court Records and Briefs, Michigan probate court opinions and Michigan Superfund site documents. The law library is a selective depository for U.S. government publications.

Databases and other e-resources are easily discoverable and remotely accessible.

The law library building was designed to make optimal use of natural light in reading and study areas. Tables, carrels and soft-seating areas are available throughout the law library and offer wired and wireless access to networked resources. Our students may reserve any of the 14 study rooms through an online reservation system. A computer lab featuring desktop computers, printers and scanners is reserved for the exclusive use of Wayne Law students.

Law Minor

A minor in law is available through the College of Liberal Arts and Sciences and the Mike Ilitch School of Business. The minor in law offers students the opportunity to study law as undergraduates. The minor gives special attention to developing skills in logical and critical thinking. The minors provide training and knowledge relevant for law-related fields, as well as a valuable credential for those seeking to enter those fields. The minor requires three core law classes taught by full-time Law School faculty. Additional requirements for the minor can be found in the school/college sections of the bulletin:

- Law Minor (Business) (p. 78)
- Law Minor (Liberal Arts and Sciences) (p. 268)

COLLEGE OF LIBERAL ARTS AND SCIENCES

Dean: Stephanie Hartwell

The College of Liberal Arts and Sciences is home to more than forty undergraduate degree programs in a wide variety of disciplines, from the humanities and social sciences to the physical and life sciences. We serve a diverse student population with a wide range of programs and courses. Our dedicated advisors provide individual advising to all our major students, and we strive to provide student engagement and undergraduate research opportunities for all students in the College.

Our bachelor degree programs provide a balance of broad studies and specialization, taking advantage of both the intellectual breadth of the College and the availability of course offerings taught by scholars and researchers who are leaders in their fields. All programs emphasize communication, both written and spoken, and the use of precise and thoughtful language. Students are stimulated to think and read critically and to become familiar with the tools of research so that learning may be a lifelong process. Intellectual growth is encouraged by developing in students the necessary independence, resourcefulness and judgment in early studies so that advanced courses may be selected with confidence.

Most fields of study in the College offer students both theoretical and practical training. Our programs are designed such that a solid knowledge of underlying principles is strengthened by practical training and experience.

The College of Liberal Arts and Sciences also serves students whose academic interests extend over several Departments. Such students have the opportunity to declare minors, pursue a co-major or take elective courses in a wide variety of fields. In addition, interdisciplinary programs such as Environmental Science, Linguistics, Global Studies, and Gender, Sexuality and Women's Studies offer varied individualized curricula.

The undergraduate programs of the College of Liberal Arts and Sciences are strengthened by graduate programs that lead to the master's and doctoral degrees in various disciplines. Professors in the College teach both graduates and undergraduates; research projects may involve both graduates and undergraduates; some specialized classes are available to both graduate students and those undergraduates enrolled in the upper division. This opportunity for association with graduate students and research personnel enriches the experience of many undergraduate students.

In the College of Liberal Arts and Sciences, students are provided with the skills, knowledge, and understanding on which to build professional and personal development in today's rapidly changing world.

Academic Regulations: Liberal Arts and Sciences

For complete information regarding academic rules and regulations of the University, students should consult the Academic Regulations (p. 11) section of this bulletin. The following additions and amendments apply to the College of Liberal Arts and Sciences.

Attendance

Regularity in attendance and performance is necessary for success in college work. Attendance requirements will be announced by instructors at the beginning of each course.

Normal Program Load

To graduate in four years, students should take at least fifteen credits per semester for eight consecutive semesters. A normal load should not exceed eighteen credits.

Because at least two hours of outside preparation are normally expected for each class hour, a fifteen credit program calls for approximately forty-five hours of class attendance and study per week. Students who undertake such a program should expect to give it their full time and energy.

Extra Credits

Extra credits are credits taken in excess of the normal maximum load of eighteen credits. Students with 3.0 (or above) grade point averages may take more than eighteen credits with approval of the advisor.

'AGRADE' (Accelerated Graduate Enrollment Program)

Accelerated Graduate Enrollment: Some departments of the College permit academically superior majors to apply for admission into the College's 'AGRADE' program. 'AGRADE' procedures enable qualified seniors in the College of Liberal Arts and Sciences to enroll simultaneously in the undergraduate and graduate programs of the College and apply a maximum of sixteen credits towards both a bachelor's and master's degree in the major field.

Qualified students may apply for the AGRADE program no earlier than the semester in which ninety credits are completed. Applicants must have an overall grade point average of 3.5 and not less than a 3.6 grade point average in the major courses already completed.

For more details about the 'AGRADE' program, contact the Graduate Director of the major department or the Graduate Office of the College of Liberal Arts and Sciences (313-577-2516).

Graduation with Academic Distinction

Candidates eligible for the bachelor's degree may receive a special citation on their diplomas under the following circumstances: The designations of 'Summa Cum Laude,' 'Magna Cum Laude,' and 'Cum Laude' will be conferred upon graduating students whose cumulative grade point averages at Wayne State University fall within approximately the upper five percent, the next five percent, and the next ten percent of the senior class, respectively. The grade points used to identify the lower limits for each designation will be based upon the grade points attained by seniors at these percentile levels during the preceding academic year. Only students who have earned 56 or more credits at Wayne State University are eligible to graduate with one of the above distinction citations.

Dean's List

The Dean's List of academically superior students is compiled each fall and winter term based on the following criteria: A 3.6 grade point average for students registered for twelve credits or more and a 4.0 grade point average for students registered for between six and eleven credits.

Academic Probation

If a student's cumulative grade point average falls below 2.0, the student will be placed on academic probation. A probation hold will need to be released each term before he or she registers. To obtain this release, the student must see his or her academic advisor.

A student will be off of academic probation at the end of any term in which she or he achieves a cumulative G.P.A. of 2.0 or better.

Exclusion

Students on academic probation will be given two subsequent terms to enroll while on probationary status. At the conclusion of the third consecutive term below 2.0, a student will be excluded from the University. An excluded student may not apply for reinstatement for one calendar year.

The decision to reinstate will be made by the College Probation Committee and based upon evidence presented by the student that circumstances have changed during the year away and that the probability of success has increased. Students seeking reinstatement should consult: http://www.clas.wayne.edu/reinstatement

Cheating and Plagiarism

The principle of honesty is recognized as fundamental to a scholarly community. Students are expected to honor this principle and instructors are expected to take appropriate action when instances of academic dishonesty are discovered. An instructor, on discovering such an instance, may give a failing grade on the assignment or for the course. The instructor has the responsibility of notifying the student of the alleged violation and the action being taken. Both the student and the instructor are entitled to academic due process in all such cases. Acts of dishonesty may lead to suspension or exclusion.

Academic Advising

Academic advisors are available in all departments. Students who have chosen a major should meet with their departmental advisor. Students should confer with advisors on all questions concerning degree requirements, academic regulations, course elections, and programs of study. It is of primary importance that students talk with an advisor when they are having difficulties in their academic work.

Bachelor's Degree Requirements: Liberal Arts and Sciences

College Requirements

All undergraduate students must satisfy University General Education Requirements (p. 34), their specific major requirements, and the College of Liberal Arts and Sciences Group Requirements, which consist of a minor plus a two-course sequence in a single foreign language.

Minor Requirement

Students must complete a university-approved minor, which may be taken in the College of Liberal Arts and Sciences or any other WSU school or college. The minor requirement is waived for students who complete a second major, a double major, a concurrent degree, a dual degree, or a second degree. Students earning a co-major in Peace and Conflict Studies or Latino/a and Latin American Studies, or who are completing an undergraduate certificate, will be considered to have completed the minor requirement. The University Honors co-major does not fulfill the college requirement for a minor.

Students must complete all courses in their minors with a minimum overall average of 2.0. In order for a minor, second major or degree, or certificate program to fulfill the College of Liberal Arts and Sciences minor requirement, it must include at least three courses that have not been used to fulfill requirements for any other major or minor.

Foreign Language Requirement

All students in the College of Liberal Arts and Sciences must successfully demonstrate language proficiency equivalent to the two-course sequence in a single foreign language. Proficiency is demonstrated by completing courses numbered 1010 and 1020 in one of the following subject area codes: ARB, ARM, CHI, FRE, GER, GKA, GKM, HEB, ITA, JPN, LAT, POL, RUS, SPA, SWA, and UKR. Those continuing the study of a foreign language begun in high school or at another college will be placed at the appropriate level in the sequence as determined by means of qualifying examinations or interviews administered by the Department of Classical and Modern Languages, Literatures, and Cultures. The College Foreign Language Group Requirement will be considered satisfied by those students whose test scores place them beyond the second-course level.

Bilingual Students: Students who were born in and completed their secondary education in a country whose language is not English may demonstrate proficiency by means of qualifying examinations or interviews administered by the Department of Classical and Modern Languages, Literatures, and Cultures. However, no credit (through course work or by examination) will be granted to such students for 1000-level courses in that language.

Major Requirements

Specific course requirements for majors are listed in this bulletin under each of the Departments or areas of the College. Students must complete all courses in their majors with a minimum overall average of 2.0.

Declaration of Major

Students can easily declare or change their major online through Academica. Students must declare a major by thirty credits of study, regardless if these credits are completed at Wayne State University or transferred from another institution.

Double Major

For students to graduate with double majors, the major requirements in both areas of concentration must be fulfilled. Both majors are designated on the diploma.

Students wishing to double major in a CLAS degree program and that of another school or college must satisfy the College of Liberal Arts and Sciences Group Requirements.

Co-Majors

The following subjects may be taken in conjunction with another major leading to a Bachelor's Degree: Latino/a and Latin American Studies and Peace and Conflict Studies

Combined Degrees

A Combined Degree (B.A. or B.S.) is granted by the College of Liberal Arts and Sciences in cooperation with approved schools of Dentistry, Medicine, and Law, which do not require a bachelor's degree for admission. Candidates for Combined Degrees must complete ninety credits in the College of Liberal Arts and Sciences, all University requirements, all College requirements, make reasonable progress (as determined by the major Department) toward completing a major, and complete satisfactorily the first year's work in an approved professional school. Courses taken in the first year of professional school may be applied toward the required fifteen credits in advanced courses. Students who fail to pass any course ordinarily required during the first year of professional work forfeit the right to a Combined Degree. Such cases may be reopened only after the student completes the second year of professional work.

Second Degrees

Students who have received a degree from Wayne State University or any other accredited institution may obtain a second bachelor's degree in another academic area. In order to be granted second degrees, students must complete a minimum of thirty credits beyond the first degree in the College and satisfy all University and major requirements as well as the college requirement for a two-semester sequence in a foreign language.

Dual Degrees

Students who have satisfied all requirements for two different major programs leading to degrees offered by the College and who have accumulated 150 or more degree credits may apply for both degrees simultaneously.

Concurrent Degrees

Students who have satisfied all requirements for two major programs - one offered by CLAS and one by another school or college— and who have accumulated 150 or more credits may apply for concurrent degrees simultaneously.

Exploratory and Pre-Professional Curricula

Students are encouraged to consult an academic advisor before choosing any curriculum.

Exploratory Curricula for Undecided Students

First-time students who are unsure of their major may enroll in a thirty-credit exploratory curriculum. There are four exploratory curricula: humanities, social sciences, life sciences and physical sciences/mathematics. These curricula are designed to give students the opportunity to take some common required courses that will help them graduate within four years once they choose their major.

Admission to pre-professional curricula implies only that students have selected professional goals. It does not necessarily mean that students will be accepted by the corresponding professional school or college. A pre-professional curriculum is not a major. Students are encouraged to declare a major together with pursuing a pre-professional curriculum. Some professional programs require a bachelor's degree. Even if a bachelor's degree is not required, admission to a professional program is often very competitive, and pursuing a major provides students with an alternative career path.

Advising for pre-health programs, including pre-medicine and pre-dental, pre-law and pre-social work is available through the University Advising Center. The pre-professional curricula in the college are:

Pre-Clinical Laboratory Science

Pre-Dentistry
Pre-Law

Pre-Medicine and Pre-Osteopathic Medicine
Pre-Mortuary Science
Pre-Nursing
Pre-Occupational Therapy
Pre-Pharmacy
Pre-Physical Therapy
Pre-Physician Assistant Studies

Pre-Radiation Therapy Technology
Pre-Radiologic Technology
Pre-Social Work

Study Abroad

African Travel-Study Programs

Ghana

Program Office: Department of African American Studies; 313-577-2321
Coordinator: Eboe Hutchful

The Department of African American Studies sponsors a summer term (four weeks on site) travel-study experience in the African country of Ghana. This program involves formal registration for graduate or undergraduate credit in Directed Study (AFS 6990). This course is taught by a W.S.U. faculty member as well as faculty members of the The Institute of African Studies at the University of Ghana, at Legon, Ghana.

The Institute of African Studies was established in 1961 as an interdisciplinary center for scholarship, teaching and research in African history, culture and religion. It offers both undergraduate and graduate instruction by its own faculty and collaborates with the social science departments of the University of Ghana. Located eight miles from Accra and in the shadow of the Aburi Hills, the University of Ghana is a large tranquil campus of original and striking architectural design and is justly considered one of the most beautiful university campuses in Africa. It is a residential university, organized around a hall system, and combines an active academic and social life.

The objectives of this travel-study program are to introduce students to broad questions of historical continuity and discontinuity, adaptation and readaptation, and syntheses that have characterized African cultures. Particular attention is given to normative values and religious views, economic and political systems, educational and health care systems, and family and community solidarities in the past and present. The program seeks to illuminate the fundamental and broad diversity in African lives as they are structured through traditional cultures, colonial impacts, nationality, gender, and socio-economic differentiation. It is designed to give students a sense of the successes and setbacks and ongoing challenges of African nationhood, and of Africa's relations with the United States and the rest of the world. On a personal basis the goals of the program are:

1. To provide intimate first-hand experience of African life styles and values systems.
2. To encourage among students an appreciation for cultural diversity through exposure to major foreign cultures.
3. To expose African-American students to the African roots of African-American identity, culture and tradition.
4. To equip students with conceptual and intellectual tools to analyze the complexity of cultural and political institutions in Africa.

5. To engage students in critical thinking and field observation in the social sciences.

Benin

Program Office: Department of Anthropology; 313-577-2953
Coordinator: Guerin C. Montilus

The Department of Anthropology sponsors a biennial interdisciplinary summer study program in collaboration with the National University of Benin in Cotonou, Republic of Benin, West Africa. Founded in 1984, this program provides first-hand experience of African life styles and value systems through lectures by African instructors and interviews with Benin residents. Depending on student interest, attention is paid to African realities such as geography, history, religion, economy, politics, migration, family and kinship, education and health care systems. This broad range of topics is reflected in the kinds of formal registration available for the program, that is, students may use this travel-study experience as the basis of instruction for a number of different W.S.U. courses offered by other departments and colleges within the University. Both graduate and undergraduate credits are optional and non-credit participants are welcome.

Caribbean Travel-Study Program: Cuba and Haiti

Program Office: Department of Anthropology; 313-577-2953
Coordinator: Guerin C. Montilus

The Caribbean study trip is an interdisciplinary study program sponsored by the Anthropology Department and hosted by the School of Preventive Medicine of the University of Santiago of Cuba and/or the Historical Ethnological Museum of the State University of Haiti, Port-au-Prince, Haiti. Both of these programs offer travel-study experiences which focus on Caribbean realities such as health care, educational systems, geography, history, religion, economy, politics, art, population, migration, family and kinship. The study trip provides first-hand experience of Caribbean life styles and value systems through lectures by Caribbean scholars and field trips guided by Caribbean instructors as well as personal interviews with Caribbean residents. Both graduate and undergraduate credits are optional and non-credit participants are welcome.

Junior Year in Munich (Germany)

Office: 401 Manoogian Hall; 313-577-4605
Program Director: Mark Ferguson
http://www.jym.wayne.edu/

Not just for German majors, the Junior Year in Munich (JYM) program is a unique study abroad experience open to students of any major at Wayne State University. JYM offers one-semester or academic year program options. Students earn WSU credit towards their degree while participating in the JYM program where they are enrolled at Ludwig Maximilians Universität (LMU Munich) - the number one ranked research university in Germany. Sponsored by Wayne State University since 1953, JYM is the oldest study abroad program in Germany. It has a national reputation for excellence and enrolls students from a wide variety of colleges and universities across the country.

ADMISSION REQUIREMENTS: The basic requirements for admission to the program are:

1. Junior (completion of fifty-five credits), senior, or graduate standing at Wayne State. Students from other universities are eligible with analogous standing at their institution.
2. Two years of college German with a 'B' average;
3. An overall 3.0 g.p.a., or better.

ORIENTATION: The program begins with an orientation period that prepares students for their studies at the university and also includes a variety of activities designed to introduce students to various facets of everyday life in their new surroundings.

COURSES: Students who study in Munich may take the following types of courses (all instruction is in German):

1. JYM Language Courses: All students are required to take JYM's Advanced German Language course each semester.
2. JYM Courses: JYM Area Studies courses take advantage of the many academic, cultural and social resources available in Munich. Field trips and excursions to cultural events and sites of historical interest in and around Munich are built into every course. These courses are offered by the program exclusively for JYM students, and are described on the JYM website.
3. University Courses: All JYM students are directly enrolled at LMU Munich and have access to the full university curriculum, except medicine and law. LMU Munich is divided into eighteen Faculties which are home to 203 institutes that focus on research and teaching within 129 disciplines and 150 degree-granting subject areas. Students may take bachelor level courses in almost any discipline if they meet course prerequisites and have the necessary language skills.

ABOUT MUNICH: Munich offers the best of all worlds: old world culture and the excitement of a big modern city, and all less than an hour from the Alps on public transportation. Because of its safe, small town feel, Munich is often referred to as a Millionendorf (a village with a million inhabitants). Munich is known for its world famous museums, symphony orchestras, theaters, film studios and opera house, as well as for its annual Oktoberfest and favorite soccer club, FC Bayern München. In addition, Munich boasts fourteen universities (two are the top-ranked in all of Germany) and twelve Max-Planck institutes, is home to the most modern engineering research center in the world, the largest medical research facility and one of the largest solar parks in Europe, and is headquarters to globally-known firms such as Allianz, BMW and Siemens. It is no wonder that the 2014 QS Best Student Cities Ranking placed Munich among the top ten best university cities worldwide.

SUPPORT IN MUNICH: The JYM institute is centrally situated in the city center, adjacent to many university buildings and student cafeteria, and just a few minutes walk from six of Munich's world-renowned museums. The institute includes an extensive library collection, study area and lounge, classrooms, computers and wireless networking capability, and is used for JYM instruction, guest speaker and special events, personal and educational support. A full-time Resident Director and support staff are available on-site to assist and guide students throughout the year.

LIVING ARRANGEMENTS: Students are housed in the popular StudentenStadt (Student-City) dormitories for university students in Munich. Located next to the English Garden, all rooms are single efficiency apartments and each floor has a common-room.

INTERNSHIPS: Internship opportunities are possible for students on the JYM program. Internships have been arranged in a wide variety of interest areas such as marketing, publishing, education, engineering, ecology and the environment, e-commerce, health care, government, foreign service, international trade, and economic development consultancy.

UNDERGRADUATE RESEARCH: JYM can help students customize a research project that matches their interests and needs. Many students take advantage of this opportunity to work on a capstone project or

senior thesis. Examples of research projects undertaken in recent years can be found on the JYM website.

SCHOLARSHIPS: Multiple scholarships are available through the JYM program. Wayne State University students holding Presidential Scholarships or Michigan Competitive Scholarships may use these for Program tuition as well as any Federal grants and loans.

African American Studies

Office: 11th Floor, 5057 Woodward, Rm. 11002.2; 313-577-2321
Chairperson: Ollie A. Johnson III
Academic Advisor: Faith Williams
Accounts Assistant: Douglass Davis
http://www.clas.wayne.edu/africanastudies

African American Studies is the systematic study of the historical, cultural, intellectual and social development of people of African descent, the societies of which they are a part, and their contribution to world civilization. Its principal geographic domains are the United States, the Caribbean, Latin America, the African continent, and increasingly Western Europe where large Africana communities reside. The field features a diversity of intellectual approaches and practical interests. Based on an interdisciplinary framework, it draws upon the humanities, and the social and behavioral sciences.

The major in African American Studies prepares students for a wide range of professional and career opportunities. Majors can continue to graduate (including doctoral level) studies in the humanities, social and behavioral sciences, or pursue professional programs in law, medicine, business, and journalism. Graduates who enter the job market are prepared for careers in human services and public health, education, public relations, community development, urban planning; and more generally for jobs in the public sector, in central cities and urban institutions, or jobs that involve cultural or intergroup relations as well as international affairs. In the context of metropolitan Detroit, African American Studies graduates will be better prepared to deal with the complexity and diversity of the city's political and demographic realities as they assume important roles of leadership.

- African American Studies (B.A.) (p. 225)
- African American Studies Minor (p. 226)

African American Studies (B.A.)

The major in African American Studies prepares students for a wide range of professional and career opportunities. Majors can continue to graduate (including doctoral level) studies in the humanities, social and behavioral sciences, or pursue professional programs in law, medicine, business, and journalism. Graduates who enter the job market are prepared for careers in human services and public health, education, public relations, community development, urban planning; and more generally for jobs in the public sector, in central cities and urban institutions, or jobs that involve cultural or intergroup relations as well as international affairs. In the context of metropolitan Detroit, African American Studies graduates will be better prepared to deal with the complexity and diversity of the city's political and demographic realities as they assume important roles of leadership.

Admission Requirements

Admission requirements for this program are satisfied by the general requirements for undergraduate admission (p. 22) to the University.

Candidates must complete 120 credits in course work including satisfaction of the University General Education requirements (p. 34) and the College of Liberal Arts and Sciences Group Requirements (p. 222), as well as the Departmental major requirements cited below. All course work must be completed in accordance with the regulations of the University (p. 11) and the College (p. 221) governing undergraduate scholarship and degrees. Students must also have and maintain an overall GPA of 2.0 as well as a GPA of 2.0 in the African American Studies major for graduation.

Students with an interest in African American studies and majoring in anthropology, English, history, sociology, urban studies, and political science are encouraged to consider a second major in African American studies. Many African American Studies courses are cross listed, and African American Studies majors may receive credit for courses taken for another major.

Major Requirements

Majors must complete at least thirty-six credits (approx. 9-12 courses) in a prescribed course of study, including:

Code	Title	Credits
AFS 3420/ PS 3820	Pan Africanism: Politics of the Black Diaspora	4
AFS 2210	Black Social and Political Thought	4
AFS 3180	Black Social Movements	4
AFS 3200	The African-American Film Experience	4
AFS 5110	Black Women in America (Writing Intensive Requirement)	3
Select two of the following:		6-8
AFS 2010	African American Culture: Historical and Aesthetic Roots	
AFS 2250	AfroLatino/a History and Culture	
AFS 2390	Introduction to African-American Literature: Literature and Writing	
AFS 2600	Race and Racism in America	
AFS 3160	Black Urban History	
AFS 3360	Black Workers in American History	
AFS 3610	Interdisciplinary Perspectives on Foreign Culture: The Africans	
AFS 4240	African Americans in Television	
Select one of the following:		3-4
AFS 5310	Special Topics in African American Studies	
AFS/SOC 5580	Law and the African American Experience	
AFS/PSY 5700	The Psychology of African Americans	
AFS electives		4-8

Internships

Internships are available in which students gain experience through placements in settings similar to those in which they will later be seeking professional roles. These include: community service agencies, community-based self-development organizations, public and private institutions, Black alternative organizations and other appropriate settings. Some students may also do a practicum directly with the Department of African American Studies, assisting in research, community relations, and in the organization, coordination and conduct of community extension and education service programs. The objective of this mode of study is to offer students the opportunity to synthesize diverse ideas, theories and methodologies with important and practical real world imperatives. Interested students should contact the department's undergraduate advisor,

Summer Study Abroad

This travel program periodically visits Africa and/or Brazil. Through an integrated field/classroom/seminar experience, students are challenged

to grow intellectually, as well as to increase their self-awareness and sensitivity to other cultures. For more information, consult the department advisor.

African American Studies Minor

Students majoring in other fields can minor in African American studies. The minor consists of six AFS courses which must include:

Code	Title	Credits
AFS 3420	Pan Africanism: Politics of the Black Diaspora	4
Select two or more of the following:		6-8
AFS 2010	African American Culture: Historical and Aesthetic Roots	
AFS 2210	Black Social and Political Thought	
AFS 2600	Race and Racism in America	
AFS 3250	Politics and Culture in Anglophone Caribbean	
Total Credits		10-12

Students wishing to minor in African American Studies are encouraged to visit the departmental office for information and counseling. A minor may be declared when filing for graduation.

Anthropology

Office: 3054 Faculty Administration Building; 313-577-2935
Chairperson: Andrea Sankar
Academic Advisor II: Harman Singh
Undergraduate Director: Andrew Newman
http://www.clas.wayne.edu/Anthropology/

Anthropology is the science of humanity, examining human life and variation in the different forms in which they are found. Anthropology considers the variety of customs, languages, and civilizations that make up humanity, uniting diverse sciences such as biology and geology, with humanistic endeavors such as religious studies, philosophy, and history. Anthropology has often been called the most scientific of the humanities and the most humanistic of the scientific disciplines.

Undergraduate training in anthropology is designed for various groups of students:

1. those desiring scientific knowledge of the social and cultural determinants of behavior;
2. those preparing to enter law, medicine, public health, social work, information sciences, or public administration;
3. those preparing for employment in historical or natural science museums;
4. those preparing to serve the business and/or industrial community as specialists in cross-cultural analysis or management consulting;
5. those seeking to enter the field of cultural resource management;
6. those expecting to work with the general public and, therefore, requiring a broad grasp of the nature of society, group behavior and social change;
7. those looking forward to teaching anthropology or another of the social or behavioral sciences;
8. those preparing for a career in another country, in international studies, or in foreign affairs;
9. those planning to pursue careers in law enforcement, police science, or criminal justice; and
10. those who desire to pursue graduate studies in anthropology.

- Anthropology (B.A.) (p. 226)
- Anthropology Minor (p. 227)
- Archaeology Minor (p. 227)
- Global Health and Social Medicine Minor (p. 227)

Anthropology (B.A.)

Anthropology is a comparative social science that seeks to understand human behavior within the context of different cultural systems, past and present. Anthropology also seeks to understand human biological evolution and adaptation and their interaction with social and cultural behavior. Anthropology brings a cross-cultural knowledge base and unique methodological and conceptual tools to bear on understanding the transformations, problems and interconnections of contemporary societies. The discipline is divided into the fields of cultural, biological, linguistic anthropology, archaeology, and applied anthropology. Wayne State's department offers a broad-based Bachelor of Arts in anthropology, for which the following admission and degree requirements apply.

Admission Requirements

Admission requirements for this program are satisfied by the general requirements for undergraduate admission (p. 22) to the University.

Candidates must complete 120 credits in course work including satisfaction of the University General Education Requirements (p. 34) and the College of Liberal Arts and Sciences Group Requirements (p. 222), as well as the Departmental major requirements cited below. All course work must be completed in accordance with the regulations of the University (p. 11) and the College (p. 221) governing undergraduate scholarship and degrees.

Major Requirements

Students majoring in anthropology are required to elect a minimum of thirty-four credits in anthropology, including:

Code	Title	Credits
ANT 1100	Introduction to Anthropology	3
ANT 2110	Introduction to Physical Anthropology	3
ANT 3020	Introduction to Archaeology	3
ANT 3100	World Cultures	3
ANT 3310	Language and Culture	3
ANT 5210	Anthropological Methods	4
ANT 5380	History of Anthropology	3
ANT 5993	Writing Intensive Course in Anthropology	0
ANT 5996	Capstone Seminar in Anthropology	3
Anthropology electives		9
Total Credits		34

A minimum of fifteen credits must be taken in residence. The capstone course (ANT 5996) must be taken in residence. All required courses must be completed with a grade of C or better.

Limitations: Students may not elect more than forty-five credits in course work within the Department.

Honors Program for Majors: see description of Honors Program, below.

Anthropology Honors (B.A. Program)

This program is open to students pursuing a bachelor's degree with a major in anthropology who maintain an overall cumulative grade point average of at least 3.3 and a similar g.p.a. in anthropology courses. Honors majors must demonstrate the ability to do original work by writing an honors thesis during their senior year. The anthropology honors

program leads to a degree designation 'with Honors in Anthropology'. Students in the Honors Program must satisfy the following requirements:

1. All requirements for a major in anthropology;
2. Overall g.p.a. of 3.3 or above;
3. Anthropology g.p.a. of 3.3 or above;
4. A minimum of three and a maximum of six thesis credits in anthropology (ANT 4999);
5. An approved honors thesis;
6. One 4000-level honors seminar (HON 4200-HON 4280) offered by the Liberal Arts and Sciences Honors Program.
7. A total of twelve honors-designated credits including ANT 4999, the 4000-level Honors Program seminar, and other honors credits earned in Honors Program courses or in Honors sections of courses offered by other departments.

Combined Degree

Students pursuing a degree at an approved school of dentistry, medicine, or law may obtain a combined degree with anthropology in accordance with the requirements set forth by the College of Liberal Arts and Sciences (p. 222).

AGRADE Program (Accelerated Graduate Enrollment)

This program enables qualified seniors in the College of Liberal Arts and Sciences to enroll simultaneously in the undergraduate and graduate programs of the College. Students may apply for the AGRADE Program during the term in which they will complete ninety credits; to qualify, students must have a minimum 3.6 g.p.a. in anthropology and a 3.5 in their overall g.p.a. For more details about the AGRADE Program, contact the Academic Advisor in the Anthropology Department.

Anthropology Minor

The election of a minor in anthropology is appropriate for students in a variety of disciplines who wish to add a comparative, cross-cultural, or bio-cultural perspective on the study of human beings to their area of specialization. The minor requires a minimum of eighteen credits in anthropology courses including:

Code	Title	Credits
ANT 1100	Introduction to Anthropology	3
Select two of the following:		6-7
ANT 2110	Introduction to Physical Anthropology	
ANT 3100	World Cultures	
ANT 3020	Introduction to Archaeology	
ANT 3310	Language and Culture	
Select three anthropology elective courses with one course at the 5000-level		9
Total Credits		18-19

Total credits, other than ANT 1100 must equal at least fifteen for all students (including transfer students).

In order for students to gain maximum benefit from their minor in conjunction with their major, it is strongly recommended that they consult with an advisor in the department before electing courses. A list of elective anthropology courses recommended for combination with a variety of majors is available from the Department.

Archaeology Minor

Archaeology is the study of past human cultures through material remains; it is one of the sub-fields of the discipline of Anthropology. The minor in archaeology will introduce particular skill sets, concepts, and competencies to students who wish to apply them to their expertise in other disciplines. The minor requires the completion of 18-19 credits.

Requirements

Code	Title	Credits
ANT 1100	Introduction to Anthropology	3
ANT 3020	Introduction to Archaeology	3
Select four elective courses from the following, one ANT course must be at the 5000-level:		12-13
ANT 2500	Archaeology of the Great Lakes	
ANT 3200	Lost Cities and Ancient Civilizations	
ANT 3220	The Inca and their Ancestors	
ANT 3530	Native Americans	
ANT 5270	Concepts and Techniques in Archaeology	
ANT 5280	Field Work in Archaeology of the Americas	
ANT 5500	Historical Archaeology	
ANT 5510	Pre-Columbian and Mesoamerican Civilization	
ANT 5565	Urban Archaeology	
ANT 5600	Museum Studies	
One of the following specialty classes may be applied to the 4-course elective requirement:		
BIO 2870	Anatomy and Physiology	
BIO 3500	Ecology and the Environment	
BIO 3800	Botany	
CHM 1220	General Chemistry I	
CHM 1240	Organic Chemistry I	
GEL 3400	Principles of Sedimentology and Stratigraphy	
GEL 3650	Field Geology	
GEL 4200	Geomorphology	
GEL 5210	Applied Geophysics	
GKM 3590	Byzantine Civilization	
GPH 3600	Introduction to Geographic Information Systems	
HIS 3650	History of Detroit	
HIS 3995	Special Topics in History	
PHY 2170	University Physics for Scientists I	
Total Credits		18-19

Global Health and Social Medicine Minor

The Global Health and Social Medicine minor will explore the relationship between human rights and health and pays special attention to the factors contributing to health inequities locally and globally. The skills and training that students will receive in the Global Health and Social Medicine minor are transferable to careers in a variety of health-related fields including medicine, nursing, public health, and social work. The minor requires the completion of 18 credits.

Requirements

Code	Title	Credits
ANT 1100	Introduction to Anthropology	3
ANT 3400	Introduction to Medical Anthropology	3
ANT/GLS/PH 3410	Global Health	3
ANT 5400	Anthropology of Health and Illness	3
Select two of the following:		6
ANT/GLS 3700	Globalization: Theories, Practices, Implications	

ANT 5410	Anthropology of Age
ANT 5700	Applied Anthropology
ECO 5550	Economics of Health Care
ECO 5600	Introduction to Development Economics
HIS/SOC 3440	American Medicine in the Twentieth Century
HIS 3585	Science, Technology, and Society
PH 3300	Epidemiology
PH 3100	Social and Behavioral Aspects of Public Health
PH 4600	Special Topics in Health Disparities
PHI 1110	Ethical Issues in Health Care
PS 3450	Environmental Policy and Politics
PS 5560	Biopolitics
PS 5850	Human Rights
PSY 2410	Health Psychology
PSY 3380	Human Sexuality
PSY 3490	Psychology of Adult Development and Aging
SOC 5360	Introduction to Medical Sociology
SOC 5760	Health and Life Course
SOC 6750	Sociology of Urban Health
Total Credits	18

Biological Sciences

Office: 1360 Biological Sciences; 313-577-2873; Fax: 313-577-6981
Chairperson: Victoria Meller
Associate Chairperson: Daniel Kashian
Academic Staff and Academic Advisors: Nora Alhussainy, Antoinette Cunningham, Kimberly Hunter, Krystyn Purvis, Rebecca Russell, Michelle Serreyn
http://www.clasweb.clas.wayne.edu/biology

Departmental Academic Policies

Student's Responsibility: It is each student's responsibility to learn the major requirements, policies, and procedures governing the program they are following and to act accordingly. All course work must be completed in accordance with the regulations of the University (p. 11) and the College (p. 221) governing undergraduate scholarship and degrees. Students should consult a Biological Sciences Department Advisor regularly in order to verify that their Biology requirements are being met in a timely fashion. Although the advisor will provide assistance, the responsibility for fulfilling degree requirements remains with the student.

Declaration of Major: Students should declare their major after completing BIO 1500 and BIO 1510 with a 'C-minus' or better. Major requirements are established by the declaration of major date. Students who do not formally declare their major are susceptible to program changes made by the Department. Recent program changes may not be reflected in the University Bulletin if they are established after the printing of the Bulletin.

Prerequisites/Corequisites: Students are required to follow all prerequisites and corequisites listed for each Biology course. Please refer to the Biological Sciences Department Advisor and the Class Schedule for accurate listings of prerequisite requirements.

Grade Requirements: All students are required to complete BIO courses with a 'C-minus' or better to satisfy the prerequisite requirements. Students with grades below a 'C-minus' in prerequisite coursework are required to retake the course before proceeding to the subsequent courses in the program.

Residency Requirement: Students must complete a minimum of twenty-one credits *in residence* in biological sciences (BIO). Of the twenty-one in residence credits, fifteen of those credits must be at the 3000 level or higher.

Combined Degree with Dentistry and Medicine: Students who were majoring in biological sciences and are candidates for a combined degree must have made reasonable progress towards the requirements listed for biological sciences majors. A minimum of twenty-five credits in residence are required in biological sciences (BIO). See also the College of Liberal Arts and Sciences policy on combined degrees.

Over-Age Credits: A student attempting to complete a biological sciences major after a prolonged interruption of his/her education may find that some of the previous course work in biological sciences is out of date. In such cases, the record will be reviewed and the Department may require the student to fulfill biological sciences course requirements existing at the time of his/her return.

Transfer Students should consult with a Departmental undergraduate advisor during the semester prior to their transfer (after a transfer evaluation has been completed by the Transfer Credit Office).

Determination of course equivalency will be made by the Departmental undergraduate advisor in conjunction with the Transfer Credit Evaluation Unit in the Office of Undergraduate Admissions. The Department reserves the right for the final determination of course equivalency.

Advanced Placement in Biological Sciences may be obtained by earning the following scores in the AP Qualifying Examination:

Score of 5: Credit is awarded for BIO 1500 and BIO 1510 (eight credits). Students are eligible to enroll in subsequent courses providing the prerequisites for them have been met.

Score of 3 or 4: Credit is awarded for BIO 1510 (four credits). Students with a score of 3 or 4 are eligible to register in BIO 1500.

Accelerated Graduate Enrollment: The 'AGRADE' Program is designed for outstanding seniors who wish to complete bachelor's and master's degrees. For further details and eligibility requirements regarding the 'AGRADE' Program and Biological Sciences, contact the Department Advising Office, 1360 Biological Sciences Building.

- Biological Sciences (B.A.) (p. 228)
- Biological Sciences (B.S.) (p. 229)
- Biological Sciences Minor (p. 230)

Biological Sciences (B.A.)

The Bachelor of Arts degree is for students who desire a broad liberal arts education with specialization in biology. It is not recommended for students anticipating admission into graduate science programs or medical school. Students contemplating a major program in biological sciences should consult with a departmental undergraduate advisor no later than the beginning of the sophomore year.

Admission Requirements

Admission requirements for this program are satisfied by the general requirements for undergraduate admission (p. 22) to the University.

Candidates must complete 120 credits in course work including satisfaction of the University General Education Requirements (p. 34) and the College of Liberal Arts and Sciences Group Requirements (p. 222), as well as the departmental major requirements cited below. All course work must be completed in accordance with the regulations of the University (p. 11) and the College (p. 221) governing undergraduate

scholarship and degrees. Students must receive a grade of C-minus or better in all biology courses. A grade point average of 2.0 (C) in both biology and general required courses is required for graduation.

Major Requirements

A minimum of 40 credits of BIO starting at BIO 1500 are required of the major as defined below. Courses through the 6000 level may be elected providing the proper prerequisites have been successfully completed.

Biology Major Course Requirements

Code	Title	Credits
BIO 1500	Basic Life Diversity	4
BIO 1510	Basic Life Mechanisms	4
BIO 2200	Introductory Microbiology	5
BIO 2600	Introduction to Cell Biology	3
BIO 3070	Genetics [2]	4-5
BIO 4200	Evolution	3
Select one of the following Course sequences:		7
BIO 3100 & BIO 4110	Cellular Biochemistry and Biomedical Technology and Molecular Biology	
BIO 3200 & BIO 4120	Human Physiology and Comparative Physiology	
BIO 3500 & BIO 4130	Ecology and the Environment and General Ecology	
BIO electives (3000 level or higher) to reach 40 credits of BIO [1]		

1 BIO electives must include a minimum of two lecture based 3000-6000 level BIO courses. Courses required to complete major requirements listed above cannot also be used as BIO elective credit.

2 If elected for honors credit, BIO 3070 is 5 credits and includes a lab.

Cognate Requirements

Code	Title	Credits
CHM 1220 & CHM 1230	General Chemistry I and General Chemistry I Laboratory	5
CHM 1240 & CHM 1250	Organic Chemistry I and Organic Chemistry I Laboratory	5
MAT 1800	Elementary Functions [1]	4
STA 1020 or STA 2210	Elementary Statistics Probability and Statistics	3

1 Students must start in the appropriate math course based upon placement exam or valid SAT/ACT scores. Students may attempt to place into a higher MAT course by taking the Placement Examination of the Department of Mathematics upon entry into the university.

Biological Sciences Honors (B.A. and B.S. Programs)

The Department participates in the honors program and works with individual students to develop a curriculum that satisfies honors degree requirements. Students interested in an honors degree should contact the departmental honors advisor.

Program Requirements: To achieve honors designation with the Bachelor of Arts or Bachelor of Science in Biological Sciences, students are required to complete all University and major requirements (see above) including fourteen honors credits in Biology and at least ten additional honors credits, which includes an Honors Seminar (HON 4200-HON 4280).

The fourteen credits in Biological Sciences are comprised of:

Code	Title	Credits
8 credits of BIO courses with honors [1]		8
BIO 1500	Basic Life Diversity	
BIO 1510	Basic Life Mechanisms	
BIO 2200	Introductory Microbiology	
BIO 2600	Introduction to Cell Biology	
BIO 3070	Genetics	
BIO 3100	Cellular Biochemistry	
BIO 3200	Human Physiology	
BIO 3500	Ecology and the Environment	
BIO 4200	Evolution	
BIO 6990	Honors Directed Study in Biology (Research credits required)	4
BIO 6999	Terminal Essay: Honors Program (Thesis required)	2
Total Credits		14

Code	Title	Credits
Honors Seminar		3
HON 4200	Seminar in Philosophy and Letters	
HON 4230	Seminar in Physical Science	
HON 4250	Seminar: Global Perspectives on Historical Studies	
HON 4260	Seminar in Foreign Culture	
HON 4280	General Honors Seminar	
7 credits of honors coursework from any discipline		7
Total Credits		10

To be awarded a BIO honors degree, students must accumulate twenty-four honors credits as defined above. Students must also maintain a cumulative g.p.a. of at least a 3.3. Students completing department honors must also maintain a 3.3 g.p.a in BIO coursework.

1 BIO courses without an honors section may be used if the professor is willing to do an honors option. Paperwork to do an honors option on a course is available from the Honors College.

Biological Sciences (B.S.)

The Bachelor of Science degree is for those students who wish to follow a career in the sciences and/or those planning to enter post-graduate professional schools. Students contemplating a major program in biological sciences should consult with a Departmental undergraduate advisor no later than the beginning of the sophomore year.

Admission Requirements

Admission requirements for this program are satisfied by the general requirements for undergraduate admission (p. 22) to the University.

Candidates must complete 120 credits in course work including satisfaction of the University General Education Requirements (p. 34) and the College of Liberal Arts and Sciences Group Requirements (p. 222), as well as the departmental major requirements cited below. All course work must be completed in accordance with the regulations of the University (p. 11) and the College (p. 221) governing undergraduate scholarship and degrees. Students must receive a grade of C-minus or better in all biology courses. A grade point average of 2.0 (C) in both biology and general required courses is required for graduation.

Major Requirements

A minimum of 40 credits of BIO starting at BIO 1500 are required of the major as defined below. Courses through the 6000 level may be elected providing the proper prerequisites have been successfully completed.

Biology Major Course Requirements

Code	Title	Credits
BIO 1500	Basic Life Diversity	4
BIO 1510	Basic Life Mechanisms	4
BIO 2200	Introductory Microbiology	5
BIO 2600	Introduction to Cell Biology	3
BIO 3070	Genetics [2]	4-5
BIO 4200	Evolution	3
Select one of the following Course sequences:		7
BIO 3100 & BIO 4110	Cellular Biochemistry and Biomedical Technology and Molecular Biology	
BIO 3200 & BIO 4120	Human Physiology and Comparative Physiology	
BIO 3500 & BIO 4130	Ecology and the Environment and General Ecology	
BIO electives (3000 level or higher) to reach 40 credits of BIO [1]		

[1] BIO electives must include a minimum of two lecture based 3000-6000 level BIO courses. Courses required to complete major requirements listed above cannot also be used as BIO elective credit.

[2] If elected for honors credit, BIO 3070 is 5 credits and includes a lab.

Cognate Requirements

Code	Title	Credits
CHM 1220 & CHM 1230	General Chemistry I and General Chemistry I Laboratory	5
CHM 1240 & CHM 1250	Organic Chemistry I and Organic Chemistry I Laboratory	5
CHM 2220 & CHM 2230	Organic Chemistry II and Organic Chemistry II Laboratory	5
CHM 2280 & CHM 2290	General Chemistry II: Analytical Chemistry and General Chemistry II: Analytical Chemistry Laboratory	5
Select one of the following sequences:		10
Option 1		
PHY 2130 & PHY 2131	Physics for the Life Sciences I and Physics for the Life Sciences Laboratory	
PHY 2140 & PHY 2141	Physics for the Life Sciences II and Physics for the Life Sciences Laboratory	
Option 2		
PHY 2170 & PHY 2171	University Physics for Scientists I and University Physics Laboratory	
PHY 2180 & PHY 2181	University Physics for Scientists II and University Physics Laboratory II	
MAT 2010	Calculus I [1]	4
MAT 2020	Calculus II	4
STA 2210	Probability and Statistics	4
or STA 1020	Elementary Statistics	

[1] Students must start in the appropriate math course based upon placement exam or valid SAT/ACT scores. Students may attempt to place into a higher MAT course by taking the Placement Examination of the Department of Mathematics upon entry into the university.

Biological Sciences Honors (B.A. and B.S. Programs)

The Department participates in the honors program and works with individual students to develop a curriculum that satisfies honors degree requirements. Students interested in an honors degree should contact the departmental honors advisor.

Program Requirements: To achieve honors designation with the Bachelor of Arts or Bachelor of Science in Biological Sciences, students are required to complete all University and major requirements (see above) including fourteen honors credits in Biology and at least ten additional honors credits, which includes an Honors Seminar (HON 4200-HON 4280).

The fourteen credits in Biological Sciences are comprised of:

Code	Title	Credits
8 credits of BIO courses with honors [1]		8
BIO 1500	Basic Life Diversity	
BIO 1510	Basic Life Mechanisms	
BIO 2200	Introductory Microbiology	
BIO 2600	Introduction to Cell Biology	
BIO 3070	Genetics	
BIO 3100	Cellular Biochemistry	
BIO 3200	Human Physiology	
BIO 3500	Ecology and the Environment	
BIO 4200	Evolution	
BIO 6990	Honors Directed Study in Biology (Research credits required)	4
BIO 6999	Terminal Essay: Honors Program (Thesis required)	2
Total Credits		14

Code	Title	Credits
Honors Seminar		3
HON 4200	Seminar in Philosophy and Letters	
HON 4230	Seminar in Physical Science	
HON 4250	Seminar: Global Perspectives on Historical Studies	
HON 4260	Seminar in Foreign Culture	
HON 4280	General Honors Seminar	
7 credits of honors coursework from any discipline		7
Total Credits		10

To be awarded a BIO honors degree, students must accumulate twenty-four honors credits as defined above. Students must also maintain a cumulative g.p.a. of at least a 3.3. Students completing department honors must also maintain a 3.3 g.p.a in BIO coursework.

[1] BIO courses without an honors section may be used if the professor is willing to do an honors option. Paperwork to do an honors option on a course is available from the Honors College.

Biological Sciences Minor

Completion of the minor in biological sciences requires twenty credits of BIO coursework as indicated below. At least 12 credits in BIO must be completed in residence at WSU.

Code	Title	Credits
BIO 1500	Basic Life Diversity	4
BIO 1510	Basic Life Mechanisms	4
BIO 2600	Introduction to Cell Biology	3
Additional three (3) BIO course electives 3000 level or higher (9 credits minimum) must be lecture based		9
Total Credits		20

Chemistry

Office: 169 Chemistry Building; 313-577-7784

Chairperson: Matthew J. Allen
Associate Chairperson: Jeremy Kodanko
Academic Services Officers: Erin Bachert, Melissa Rochon
http://www.chem.wayne.edu

The courses offered by this Department are designed to serve the needs of three distinct groups of students:

1. those majoring in chemistry with the intention of entering the chemical profession,
2. those majoring in chemistry with the intention of entering other professional fields, and
3. those majoring in other subjects who desire to elect chemistry courses as part of their programs. Students intending to major in chemistry should refer to the program tabs for more information.

Students with no prior experience in chemistry may elect CHM 1000 (for non-science majors); CHM 1020 (for non-science majors and certain preprofessional students); or CHM 1040, which is intended for students who need higher-level chemistry work but who fail to qualify for CHM 1220 or CHM 1225 or whose math/science skills are weak. Students who have had a year or more of high school chemistry or the equivalent may register for CHM 1220 or CHM 1225 (for science and preprofessional majors) provided that they meet the other eligibility requirements outlined below. Election of CHM 1000, CHM 1020, CHM 1220, or CHM 1225 will satisfy the University General Education Requirement for a physical science.

Terminal Chemistry Courses: CHM 1000 is a terminal survey course designed primarily to acquaint non-science students with the principles of chemistry in a format requiring minimal mathematical skills. When elected for four credits, this course includes a laboratory which satisfies the University General Education Requirement for a laboratory course.

CHM 1020 and CHM 1030 represent a terminal sequence designed to introduce the basic principles of chemistry and survey the various fields of chemistry for non-science majors and certain pre-professional students such as pre-nursing, occupational health, engineering technicians and others.

Foundational Chemistry: CHM 1040 is designed as the beginning chemistry course for science majors, pre-professional students, and other students who have had little prior experience in chemistry and/or mathematics. CHM 1220 (or CHM 1225) and CHM 1230 are complementary and corequisite courses which should be taken during the same term. CHM 1220 is a classroom-focused course. CHM 1230 is a laboratory-focused course. This also describes the succeeding corequisite sets CHM 1240 and CHM 1250, CHM 2220 and CHM 2230, and CHM 2280 and CHM 2290.

General Chemistry: CHM 1220/CHM 1230 are designed as the beginning courses for science majors and preprofessional students who have a good background in high school chemistry. (CHM 1225/CHM 1230 is the sequence for students in the College of Engineering.) Eligibility for CHM 1220/CHM 1230 must be established by passing a placement examination, covering basic high school material, which is administered by Testing, Evaluation, and Student Life Research, 698 Student Center Building. The qualifying examination is administered several times prior to and during registration.

The sequence of CHM 1220/CHM 1230 and CHM 1240/CHM 1250 are prerequisite to all higher numbered courses in chemistry.

Advanced Placement Credit

Advanced placement college credit in chemistry shall be awarded for scores earned in the chemistry placement examination as follows:

Score of 4 or 5: Credit awarded for CHM 1220/CHM 1230 and CHM 2280 (eight credits); student is eligible to enroll in CHM 1240/CHM 1250.

Score of 3: Credit awarded for CHM 1220/CHM 1230 (five credits); student is eligible to enroll in CHM 1240/CHM 1250.

- Biochemistry and Chemical Biology (B.S.) (p. 231)
- Chemistry (B.A.) (p. 232)
- Chemistry (B.S.) (p. 233)
- Chemistry Minor (p. 235)

Biochemistry and Chemical Biology (B.S.)

This degree offers students the opportunity to develop in-depth knowledge in five areas of biological chemistry (bioorganic, bioinorganic, bioanalytical, biophysical, and health sciences). The program teaches key chemical concepts and develops student ability to apply them to a wide variety of biological problems. The program serves to develop and train graduates who will be well prepared to enter graduate or professional schools as well as careers in the chemical, pharmaceutical, biomedical, agricultural and bioinformatic industries.

Admission Requirements

Admission requirements for this program are satisfied by the general requirements for undergraduate admission (p. 22) to the University. Students planning to major in biochemistry and chemical biology should consult with an advisor in the Chemistry Department not later than the beginning of their sophomore year.

Candidates must complete 120 credits in course work including satisfaction of the University General Education Requirements (p. 34) and the College of Liberal Arts and Sciences Group Requirements (p. 222), as well as the departmental major requirements cited below. All course work must be completed in accordance with the regulations of the University (p. 11) and the College (p. 221) governing undergraduate scholarship and degrees.

Major Requirements

Those who wish to follow the curriculum in the College for the B.S. with a major in Biochemistry and Chemical Biology degree must complete the following courses:

Code	Title	Credits
CHM 1220	General Chemistry I	4
CHM 1230	General Chemistry I Laboratory	1
CHM 1240	Organic Chemistry I	4
CHM 1250	Organic Chemistry I Laboratory	1
CHM 2220	Organic Chemistry II	4
CHM 2230	Organic Chemistry II Laboratory	1
CHM 2280	General Chemistry II: Analytical Chemistry	3
CHM 2290	General Chemistry II: Analytical Chemistry Laboratory	2
CHM 3000	Metals in Biology	3
CHM 5400	Biological Physical Chemistry	4
CHM 6610	Biological Chemistry Laboratory	3
CHM 6620	Metabolism: Pathways and Regulation	3
CHM 6635	Tools of Molecular Biology	3
CHM 6640	Molecular Biology	3
CHM 5999	Research in Chemistry [1]	2-4
or CHM 5998	Honors Thesis Research in Chemistry	

or CHM 5900	Biomedical Research as Discovery	
Three courses in approved advanced chemistry topics. Please see a chemistry undergraduate advisor for a list of appropriate electives.		8-10
PHY 2170	University Physics for Scientists I	4
PHY 2171	University Physics Laboratory	1
PHY 2180	University Physics for Scientists II	4
PHY 2181	University Physics Laboratory II	1
MAT 2010	Calculus I	4
MAT 2020	Calculus II	4
STA 2210	Probability and Statistics	4
BIO 1510	Basic Life Mechanisms	4
BIO 2200	Introductory Microbiology	5
Total Credits		80-84

[1] By the first semester of the senior year, the student must enroll for at least two credits in independent research (CHM 5999 or CHM 5998) or two credits of CHM 5900. The student must work under the direction of a faculty member of the Department of Chemistry. It is advised that the student consult with the faculty during the term prior to beginning work, in order to choose the area and staff member under whose direction this research will be carried out. At the conclusion of the project, the student must present a written report for approval by the Chairperson of the Department. With prior approval by the Chairperson of the Department, students may be allowed to substitute to 2 credits of an internship experience (CHM 6991) in place of a research project.

A minimum grade of C is required in prerequisite chemistry courses.

At least fifteen credits in chemistry plus Research in Chemistry (CHM 5999) must be earned at Wayne State University.

Biochemistry and Chemical Biology Honors (B.S. Program)

1. All regular requirements for the Bachelor of Science with a major in Biochemistry and Chemical Biology degree must be fulfilled (no substitutions).
2. Minimum g.p.a.: 3.3 overall; 3.3 in chemistry courses.
3. Minimum of four credits must be earned in independent research (CHM 5998); this should commence in the junior year (or earlier).
4. Completion of one semester of an HON 4200-level honors seminar. (For information about honors-designated coursework available each semester, including the required 4000-level Honors seminar, visit the Honors College website (http://www.honors.wayne.edu/classes.php).) This course may be used to partially fulfill college Group Requirements and can be elected in either the junior or senior year.
5. Submission of a B.S. thesis (covering the undergraduate independent research project), or of a manuscript suitable for publication in a refereed chemical journal, to the Honors Subcommittee in Chemistry which will act to accept or reject the thesis (or manuscript).
6. An oral examination covering the B.S. Honors Research Project, by the Honors Subcommittee in Chemistry.

Biochemistry and Chemical Biology Minor

Students majoring in other fields who desire to obtain a minor in biochemistry and chemical biology must complete the following:

Code	Title	Credits
CHM 1220 & CHM 1230	General Chemistry I and General Chemistry I Laboratory	5
CHM 1240 & CHM 1250	Organic Chemistry I and Organic Chemistry I Laboratory	5
CHM 2220 & CHM 2230	Organic Chemistry II and Organic Chemistry II Laboratory	5
CHM 2280	General Chemistry II: Analytical Chemistry	3
CHM 6620	Metabolism: Pathways and Regulation	3
Select three additional credits at Wayne State University from the following:		3
CHM 6270	Advanced Bioorganic Chemistry and Drug Design	
CHM 6635	Tools of Molecular Biology	
CHM 6640	Molecular Biology	
Total Credits		24

Chemistry (B.A.)

This curriculum allows students to major with a maximum of forty-six credits in chemistry while providing flexibility for exposure in other cognate fields. This degree is appropriate for students in science-oriented pre-professional programs such as medicine and dentistry, as well as for students entering secondary science teaching. For individuals interested in entering a graduate program in chemistry or pursuing a position in the chemical industry upon graduation, it is recommended that the additional requirements for professional certification by the American Chemical Society (see *Requirements* tab) be completed.

Admission Requirements

Admission requirements for this program are satisfied by the general requirements for undergraduate admission (p. 22) to the University.Students planning to major in chemistry should consult with an advisor in the Chemistry Department not later than the beginning of their sophomore year.

Candidates must complete 120 credits in course work including satisfaction of the University General Education Requirements (p. 34) and the College of Liberal Arts and Sciences Group Requirements (p. 222), as well as the departmental major requirements cited below. All course work must be completed in accordance with the regulations of the University (p. 11) and the College (p. 221) governing undergraduate scholarship and degrees.

Major Requirements

Those who wish to follow the general curriculum in the College of Liberal Arts and Sciences for the B.A. degree with a major in chemistry must complete the following courses:

Code	Title	Credits
CHM 1220	General Chemistry I	4
CHM 1230	General Chemistry I Laboratory	1
CHM 1240	Organic Chemistry I	4
CHM 1250	Organic Chemistry I Laboratory	1
CHM 2220	Organic Chemistry II	4
CHM 2230	Organic Chemistry II Laboratory	1
CHM 2280	General Chemistry II: Analytical Chemistry	3
CHM 2290	General Chemistry II: Analytical Chemistry Laboratory	2
CHM 3020	Intermediate Inorganic Chemistry I	3
CHM 5400	Biological Physical Chemistry	3-4
or CHM 5420	Physical Chemistry I	

CHM 5550	Physical Chemistry Laboratory	2
CHM 5600	Survey of Biochemistry	3
Select at least one of the following:		3-4
CHM 5020	Intermediate Inorganic Chemistry II	
CHM 5160	Instrumental Analytical Chemistry	
CHM 5440	Physical Chemistry II	
CHM 5510	Chemical Synthesis Laboratory	
CHM 6060	Materials Chemistry and Engineering	
CHM 6070	Advanced Bioinorganic Chemistry	
CHM 6240	Organic Spectroscopy	
CHM 6270	Advanced Bioorganic Chemistry and Drug Design	
CHM 6440	Computational Chemistry	
CHM 6620	Metabolism: Pathways and Regulation	
CHM 6635	Tools of Molecular Biology	
CHM 6640	Molecular Biology	
PHY 2170	University Physics for Scientists I	4
PHY 2171	University Physics Laboratory	1
PHY 2180	University Physics for Scientists II	4
PHY 2181	University Physics Laboratory II	1
MAT 2010	Calculus I	4
MAT 2020	Calculus II	4
MAT 2030	Calculus III	4
Total Credits		56-58

A minimum grade of 'C' is required in prerequisite chemistry courses.

At least fifteen credits in chemistry must be earned at Wayne State University.

ACS Certification

B.A. candidates may receive certification by the American Chemical Society upon graduation by completing the following in addition to the Chemistry courses required for the B.A. degree:

Code	Title	Credits
MAT 2250	Elementary Linear Algebra	3-4
or MAT 2350	Elementary Differential Equations	
or MAT 2150	Differential Equations and Matrix Algebra	
CHM 5420	Physical Chemistry I	3
CHM 5440	Physical Chemistry II (rather than CHM 5400)	4
CHM 5160	Instrumental Analytical Chemistry	3
Select two of the following:		5-6
CHM 5510	Chemical Synthesis Laboratory	
CHM 5570	Instrumental Analytical Chemistry Laboratory	
CHM 5999	Research in Chemistry	
Total Credits		18-20

To receive certification, students must submit an application along with a transcript to the Chemistry Department Curriculum Committee prior to the end of the final term.

Chemistry Honors (B.A. Program)

1. All B.A. requirements in chemistry must be fulfilled.
2. Minimum g.p.a.: 3.3 overall; 3.3 in chemistry courses.
3. Minimum of four credits in independent research (CHM 5998). Research should commence in the junior year (or earlier).
4. Completion of one semester of an Honors Program 4200-level seminar (consult the Schedule of Classes under 'Honors Program'). This course may be used in partial fulfillment of College Group Requirements and can be elected in either the junior or senior year.
5. At least twelve credits in honors-designated course work.
6. Submission of a B.A. thesis or of a manuscript suitable for publication in a refereed chemical journal (covering the undergraduate research project) to the Honors Subcommittee in Chemistry which will act to accept or reject the thesis (or manuscript).
7. An oral examination covering the B.A. Honors Research Project, by the Honors Subcommittee in Chemistry.

Chemistry (B.S.)

This degree offers a strong background for students interested in a career in chemistry or in a professional field with a strong reliance on chemistry. It is particularly recommended for students planning to do graduate work in chemistry and chemically-related fields. The degree is offered with three options:

1. Bachelor of Science in Chemistry,
2. Bachelor of Science in Chemistry with a concentration in biochemistry, and
3. Bachelor of Science in Chemistry with a concentration in materials.

The first option is designed primarily for those planning to enter the chemical profession and other professional fields. The second option is designed primarily for students planning careers in biochemical and biomedical areas. The third option is designed primarily for students interested in materials science. (Note: Those interested in Phi Beta Kappa should consult with the secretary of the Wayne State University Chapter in order to determine the maximum number of chemistry credits allowed.)

Admission Requirements

Admission requirements for this program are satisfied by the general requirements for undergraduate admission (p. 22) to the University. Students planning to major in chemistry should consult with an advisor in the Chemistry Department not later than the beginning of their sophomore year.

Candidates must complete 120 credits in course work including satisfaction of the University General Education Requirements (p. 34) and the College of Liberal Arts and Sciences Group Requirements (p. 222), as well as the departmental major requirements cited below. All course work must be completed in accordance with the regulations of the University (p. 11) and the College (p. 221) governing undergraduate scholarship and degrees.

Chemistry B.S. - Option One

Major Requirements

Those who wish to follow the curriculum in the College for the B.S. in Chemistry degree must complete the following courses:

Code	Title	Credits
CHM 1220	General Chemistry I	4
CHM 1230	General Chemistry I Laboratory	1
CHM 1240	Organic Chemistry I	4
CHM 1250	Organic Chemistry I Laboratory	1
CHM 2220	Organic Chemistry II	4
CHM 2230	Organic Chemistry II Laboratory	1
CHM 2280	General Chemistry II: Analytical Chemistry	3
CHM 2290	General Chemistry II: Analytical Chemistry Laboratory	2

CHM 3020	Intermediate Inorganic Chemistry I	3
CHM 5020	Intermediate Inorganic Chemistry II	3
CHM 5160	Instrumental Analytical Chemistry	3
CHM 5420	Physical Chemistry I	3
CHM 5440	Physical Chemistry II	4
CHM 5510	Chemical Synthesis Laboratory	3
CHM 5550	Physical Chemistry Laboratory	2
CHM 5600	Survey of Biochemistry	3
CHM 5570	Instrumental Analytical Chemistry Laboratory	3
Select one of the following:		3-4
CHM 6060	Materials Chemistry and Engineering	
CHM 6070	Advanced Bioinorganic Chemistry	
CHM 6170	Advances in Bioanalytical Chemistry	
CHM 6240	Organic Spectroscopy	
CHM 6270	Advanced Bioorganic Chemistry and Drug Design	
CHM 6440	Computational Chemistry	
CHM 6620	Metabolism: Pathways and Regulation	
CHM 6635	Tools of Molecular Biology	
CHM 6640	Molecular Biology	
CHM 5999	Research in Chemistry [1]	2-4
or CHM 5998	Honors Thesis Research in Chemistry	
PHY 2170	University Physics for Scientists I	4
PHY 2171	University Physics Laboratory	1
PHY 2180	University Physics for Scientists II	4
PHY 2181	University Physics Laboratory II	1
MAT 2010	Calculus I	4
MAT 2020	Calculus II	4
MAT 2030	Calculus III	4
Select one of the following:		3-4
MAT 2150	Differential Equations and Matrix Algebra	
MAT 2250	Elementary Linear Algebra	
MAT 2350	Elementary Differential Equations	
Total Credits		77-81

[1] By the first semester of the senior year, the student must enroll for at least two credits in independent research (CHM 5999 or CHM 5998). The student must work under the direction of a faculty member of the Department of Chemistry. It is advised that the student consult with the faculty during the term prior to beginning work, in order to choose the area and staff member under whose direction this research will be carried out. At the conclusion of the project, the student must present a written report for approval by the Chairperson of the Department. With prior approval by the Chairperson of the Department, students may be allowed to substitute to 2 credits of an internship experience (CHM 6991) in place of a research project.

A minimum grade of C is required in prerequisite chemistry courses.

At least fifteen credits in chemistry plus Research in Chemistry (CHM 5999) must be earned at Wayne State University.

Substitutions in B.S. Curriculum (Option One ONLY): In recognition of the diverse backgrounds required for various careers in chemistry, students may petition the Chemistry Curriculum Committee for approval to substitute advanced courses numbered 5000 or above from another discipline (such as physics, mathematics, biology, engineering) for the following B.S. requirements:

Code	Title	Credits
Select one of the following:		3-4
MAT 2150	Differential Equations and Matrix Algebra	
MAT 2250	Elementary Linear Algebra	
MAT 2350	Elementary Differential Equations	
CHM 5510	Chemical Synthesis Laboratory	3
CHM 5570	Instrumental Analytical Chemistry Laboratory	3
Chemistry elective		

Such petitions for substitutions must be submitted in writing accompanied by a detailed statement of justification and a current transcript, and must be approved prior to registration in the alternative courses. Decisions regarding approval of such requests will be based on their legitimacy in terms of the student's professional goals. It is suggested that students consult the Chairperson of the Chemistry Curriculum Committee before filing such a petition.

Chemistry B.S. - Option Two (Biochemistry)

Major Requirements

Those who wish to follow the curriculum for the B.S. in Chemistry with a concentration in biochemistry must complete the following courses (NO substitutions are allowed in the Option Two program: B.S. in Chemistry with a concentration in biochemistry):

Code	Title	Credits
CHM 1220	General Chemistry I	4
CHM 1230	General Chemistry I Laboratory	1
CHM 1240	Organic Chemistry I	4
CHM 1250	Organic Chemistry I Laboratory	1
CHM 2220	Organic Chemistry II	4
CHM 2230	Organic Chemistry II Laboratory	1
CHM 2280	General Chemistry II: Analytical Chemistry	3
CHM 2290	General Chemistry II: Analytical Chemistry Laboratory	2
CHM 3020	Intermediate Inorganic Chemistry I	3
CHM 5020	Intermediate Inorganic Chemistry II	3
CHM 5160	Instrumental Analytical Chemistry	3
CHM 5400	Biological Physical Chemistry	4
or CHM 5420	Physical Chemistry I	
CHM 5550	Physical Chemistry Laboratory	2
CHM 5570	Instrumental Analytical Chemistry Laboratory	3
CHM 6610	Biological Chemistry Laboratory	3
CHM 6620	Metabolism: Pathways and Regulation	3
CHM 6640	Molecular Biology	3
Select one of the following:		3-4
CHM 5510	Chemical Synthesis Laboratory	
MAT 2150	Differential Equations and Matrix Algebra	
MAT 2250	Elementary Linear Algebra	
MAT 2350	Elementary Differential Equations	
CHM 5999	Research in Chemistry [1]	2-4
or CHM 5998	Honors Thesis Research in Chemistry	
PHY 2170	University Physics for Scientists I	4
PHY 2171	University Physics Laboratory	1
PHY 2180	University Physics for Scientists II	4
PHY 2181	University Physics Laboratory II	1
BIO 1510	Basic Life Mechanisms	4

BIO 2200	Introductory Microbiology	5
BIO 3070	Genetics	4
MAT 2010	Calculus I	4
MAT 2020	Calculus II	4
MAT 2030	Calculus III	4
Total Credits		87-90

[1] By the first semester of the senior year, the student must enroll for at least two credits in independent research (CHM 5999 or CHM 5998). The student must work under the direction of a faculty member of the Department of Chemistry. It is advised that the student consult with the faculty during the term prior to beginning work, in order to choose the area and staff member under whose direction this research will be carried out. At the conclusion of the project, the student must present a written report for approval by the Chairperson of the Department. With prior approval by the Chairperson of the Department, students may be allowed to substitute to 2 credits of an internship experience (CHM 6991) in place of a research project.

A minimum grade of C is required in prerequisite chemistry courses.

At least fifteen credits in chemistry plus Research in Chemistry (CHM 5999) must be earned at Wayne State University.

Chemistry B.S. - Option Three (Materials)

Major Requirements

Those who wish to follow the curriculum for the B.S. in Chemistry with a concentration in materials must complete the following courses (NO substitutions are allowed in the Option Three program: B.S. in Chemistry with a concentration in materials):

Code	Title	Credits
CHM 1220	General Chemistry I	4
CHM 1230	General Chemistry I Laboratory	1
CHM 1240	Organic Chemistry I	4
CHM 1250	Organic Chemistry I Laboratory	1
CHM 2220	Organic Chemistry II	4
CHM 2230	Organic Chemistry II Laboratory	1
CHM 2280	General Chemistry II: Analytical Chemistry	3
CHM 2290	General Chemistry II: Analytical Chemistry Laboratory	2
CHM 3020	Intermediate Inorganic Chemistry I	3
CHM 5020	Intermediate Inorganic Chemistry II	3
CHM 5160	Instrumental Analytical Chemistry	3
CHM 5420	Physical Chemistry I	3
CHM 5440	Physical Chemistry II	4
CHM 5550	Physical Chemistry Laboratory	2
CHM 5570	Instrumental Analytical Chemistry Laboratory	3
CHM 5600	Survey of Biochemistry	3
CHM 6060	Materials Chemistry and Engineering	3
or MSE 5350	Polymer Science	
CHM 5999	Research in Chemistry [1]	2-4
or CHM 5998	Honors Thesis Research in Chemistry	
PHY 2170	University Physics for Scientists I	4
PHY 2171	University Physics Laboratory	1
PHY 2180	University Physics for Scientists II	4
PHY 2181	University Physics Laboratory II	1
BE 1300	Basic Engineering II: Materials Science for Engineering Applications	3
BE 1310	Materials Science for Engineering: Laboratory	1
MAT 2010	Calculus I	4
MAT 2020	Calculus II	4
MAT 2030	Calculus III	4
Select one of the following:		3-4
MAT 2150	Differential Equations and Matrix Algebra	
MAT 2250	Elementary Linear Algebra	
MAT 2350	Elementary Differential Equations	
MSE 5650	Surface Science	3
Total Credits		81-84

[1] In addition, students must enroll for at least two credits in independent research (CHM 5999 or CHM 5998) by the first semester of their senior year. Research must be conducted under the direction of a faculty member of the Department of Chemistry. It is advised that the student consult with the faculty during the term prior to beginning work, in order to choose the area and staff member under whose direction this research will be carried out. At the conclusion of the project, the student must present a written report for approval by the Chairperson of the Department. With prior approval by the Chairperson of the Department, students may be allowed to substitute to 2 credits of an internship experience (CHM 6991) in place of a research project.

A minimum grade of C is required in prerequisite chemistry courses.

At least fifteen credits in chemistry plus Research in Chemistry (CHM 5999 or CHM 5998) must be earned at Wayne State University.

Chemistry Honors (B.S. Program)

1. *All* regular requirements for the Bachelor of Science in Chemistry degree must be fulfilled (no substitutions).
2. Minimum g.p.a.: 3.3 overall; 3.3 in chemistry courses.
3. Minimum of four credits must be earned in independent research (CHM 5998); this should commence in the junior year (or earlier).
4. Completion of one semester of an HON 4200-level honors seminar.This course may be used to partially fulfill college Group Requirements and can be elected in either the junior or senior year.
5. Submission of a B.S. thesis (covering the undergraduate independent research project), or of a manuscript suitable for publication in a refereed chemical journal, to the Honors Subcommittee in Chemistry which will act to accept or reject the thesis (or manuscript).
6. An oral examination covering the B.S. Honors Research Project, by the Honors Subcommittee in Chemistry.

Chemistry Minor

Students majoring in other fields who desire to obtain a minor in chemistry must complete the following courses:

Code	Title	Credits
CHM 1220 & CHM 1230	General Chemistry I and General Chemistry I Laboratory	5
CHM 1240 & CHM 1250	Organic Chemistry I and Organic Chemistry I Laboratory	5
CHM 2220 & CHM 2230	Organic Chemistry II and Organic Chemistry II Laboratory	5
CHM 2280	General Chemistry II: Analytical Chemistry	3
Select six additional credits earned at Wayne State University in Chemistry courses numbered 3000 or above, typically satisfied from a combination of the following: [1]		6

CHM 3000	Metals in Biology	
CHM 3020	Intermediate Inorganic Chemistry I	
CHM 5020	Intermediate Inorganic Chemistry II	
CHM 5160	Instrumental Analytical Chemistry	
CHM 5400	Biological Physical Chemistry	
CHM 5420	Physical Chemistry I	
CHM 5440	Physical Chemistry II	
CHM 5600	Survey of Biochemistry	
CHM 6060	Materials Chemistry and Engineering	
CHM 6070	Advanced Bioinorganic Chemistry	
CHM 6270	Advanced Bioorganic Chemistry and Drug Design	
CHM 6440	Computational Chemistry	
CHM 6620	Metabolism: Pathways and Regulation	
CHM 6635	Tools of Molecular Biology	
CHM 6640	Molecular Biology	
Total Credits		24

[1] Excluding seminar and research courses (CHM 2999, CHM 4850, CHM 5999, CHM 5998, etc.).

Classical and Modern Languages, Literatures, and Cultures

Office: 485 Manoogian Hall; 313-577-3002
Chairperson: Vanessa DeGifis
Academic Services Officers: Terrie Pickering
Academic Advisor: Chris Clark
http://www.clas.wayne.edu/languages

This Department offers courses and programs of instruction in fourteen different languages. In addition to language learning and Global Studies, the Department focuses on the cultures and literatures of ancient Greece and Rome, as well as the modern world, in courses taught both in languages indigenous to these regions as well as in English translation. The study of other languages, literatures, and cultures not only provides important perspectives on the world, but also sharpens analytical and reasoning skills, deepens understanding of English, and enhances the quality of one's writing. Linguistic and broadly-based cultural studies provide excellent grounding for various professional programs, including law, business, medicine or health sciences, teaching at the high school or university level, library and information science, and museum practice. Languages, literatures, and cultures are also excellent foundations for students interested in pursuing careers that do not require post-graduate education, for example, in government, publishing, tourism, and business, any field in which intelligence, communication skills, and a broad liberal education are valued.

The Department offers programs in both major and minor concentration as well as cognate course work that can provide perspectives for majors in other departments. A student who wishes to major or minor in one of our degree programs should meet with a Departmental advisor as soon as possible after entering the University.

Majors

- Asian Studies (B.A.) (p. 237)
- Classics (B.A.) (p. 238)
- German (B.A.) (p. 239)
- Global Studies (B.A.) (p. 240)
- Near Eastern Studies (B.A.) (p. 243)
- Romance Languages (B.A.) (p. 243)
- Slavic Studies (B.A.) (p. 244)

Minors

- Arabic Minor (p. 245)
- Asian Studies Minor (p. 245)
- Classical Civilization Minor (p. 245)
- Folklore and Fairy-Tale Studies Minor (p. 246)
- French Minor (p. 246)
- German Minor (p. 246)
- Global Studies Minor (p. 246)
- Israeli Studies Minor (p. 247)
- Italian Minor (p. 247)
- Latin Minor (p. 247)
- Modern Greek Studies Minor (p. 247)
- Near Eastern Studies Minor (p. 247)
- Polish Minor (p. 247)
- Russian Minor (p. 247)
- Spanish Minor (p. 248)

CMLLC Program Requirements

Degree Requirements

Candidates must complete 120 credits in course work including satisfaction of the University General Education Requirements (p. 34) and the College of Liberal Arts and Sciences Group Requirements (p. 222), as well as the departmental major requirements cited below. All course work must be completed in accordance with the regulations of the University (p. 11) and the College (p. 221) governing undergraduate scholarship and degrees.

Placement: Students continuing the study of any of the languages cited at Foreign Language (p. 222) and begun in high school or in another college should consult with the Department undergraduate advisor to determine the level of at which to continue coursework (phone: 313-577-3002). The main criteria for placement of these students is the Departmental placement exam. The number of years of high school language study does not effectively correspond to language course sequences at the university level. Students with sufficiently high placement exam scores will be deemed to have satisfied the Foreign Language Group Requirement. For information on the Placement Examination, contact the Department at 313-577-3002. Examinations are scheduled by appointment at the Department Office, 487 Manoogian Hall. (A fee is charged.)

Departmental Honors Program

Qualified majors may apply for participation in the Departmental Honors Program. Only a student who has demonstrated superior ability in one of the Departmental majors and who shows promise of acquiring greater breadth and depth of knowledge through tutorial study will be admitted to the program. As preparation for admission, the student is required, during the freshman and sophomore years, to acquire basic knowledge of their major language. To be recommended for an honors degree a student must maintain a cumulative grade point average of at least 3.3. He/she must accumulate at least fifteen credits in honors-designated course work, including at least one 4000-level seminar offered through the Honors College (see the schedule of classes (http://classschedule.wayne.edu) under 'Honors Courses' for seminar topics),

and the Departmental credits associated with completion of a Senior Thesis.

'AGRADE' Program (Accelerated Graduate Enrollment)

The Department encourages academically-superior majors to petition for admission into the College's 'AGRADE' program. Qualified seniors may apply a maximum of fifteen credits toward both a bachelor's and a master's degree. For more details, contact the graduate director (Classics, French, German, Italian, or Spanish): 313-577-3002. Students should consult with the director in their junior year regarding this opportunity.

Study Abroad

Students should consult the department and the Study Abroad and Global Programs Office (p. 44) for more details on the following programs:

Arabic Language and Culture at the American University of Cairo or Lebanese American University

Junior Year in Munich Program
Juniors, seniors, or graduate students who would like to spend a year studying at the University of Munich are encouraged to contact the Junior Year in Germany Office, 401 Manoogian Hall; 313-577-4605.

Study Abroad in Poland
A two-week study-abroad program is offered in May. Contact department for details.

Study Abroad in Russia
A four-week program offered in June. Students study and live in St. Petersburg, and make a side-trip to Moscow.

Summer Homestay and Study Tour Program in Japan
A two-week study tour trip (trip after spring semester) is offered in spring and summer. Contact department for details.

Asian Studies (B.A.)

The study of other languages, literatures, and cultures not only provides important perspectives on the world, but also sharpens analytical and reasoning skills, deepens understanding of English, and enhances the quality of one's writing. Linguistic and broadly-based cultural studies provide excellent grounding for various professional programs, including law, business, medicine or health sciences, teaching at the high school or university level, library and information science, and museum practice.

Students should refer to the CMLLC program requirements (p. 236) for admission, degree, and general education requirements.

Asian Studies

A major in Asian Studies consists of a concentration in either Chinese; Japanese; Chinese and Japanese (language focused); or Joint Culture (East Asian Studies focused).

Chinese OR Japanese Concentration

The major with a concentration in Chinese or Japanese requires thirty-five credits consisting of:

Code	Title	Credits
CHI 2010	Intermediate Chinese	4
or JPN 2010	Intermediate Japanese I	
CHI 2020	Intermediate Chinese II	4
or JPN 2020	Intermediate Japanese II	
Nine further credits in language (select from the following)		9
CHI 3100	Advanced Chinese I	
or JPN 3010	Advanced Japanese I	
CHI 3200	Advanced Chinese II	
or JPN 3020	Advanced Japanese II	
CHI 2000	Chinese Phonetics	
or JPN 2110	Listening Japanese with Media and Animation	
or JPN 3540	Intensive Japanese	
East Asian Studies (select from the following)		6
ASN/HIS 1700	East Asia to the 1700s	
or ASN/HIS 1710	History of Modern East Asia	
CHI/JPN 5220/LIN 5100	Languages of Asia	
PS 3770	Politics of East Asia	
Region Specific (6 credits in either Chinese or Japanese Studies)		6
CHI 2050	Gateway to Chinese Civilizations	
CHI 3010	Contemporary Chinese Pop Culture	
CHI 3022	Introduction to Chinese Literature	
CHI 5210	Introduction to Chinese Linguistics	
CHI 5230	Grammar of Chinese	
CHI 5300	Teaching Chinese as a Second Language	
PHI 2150	Chinese Philosophy	
JPN 2710	Japanese Culture	
JPN 2800	Culture Studies in Japan (Homestay and Study Abroad Tour)	
JPN 4550	Japanese Culture and Society I	
JPN 4560	Japanese Culture and Society II	
JPN 4850	Studies in Japanese Culture	
JPN 5999	Internship in Japanese Studies	
ASN 2800	Culture Studies in Japan (Homestay and Study Abroad Tour)	
Electives		6
Total Credits		35

Electives include but are not limited to the disciplines of anthropology, business management, history, economics, linguistics, philosophy, cinema, culture, literature, and political science. Further restrictions may apply and students should consult the undergraduate advisor of the language area for details.

Chinese AND Japanese Concentration

The Chinese and Japanese Concentration focuses on the study of both languages. It requires thirty-six credits consisting of:

Code	Title	Credits
Language 1		8
CHI 2010	Intermediate Chinese	
or JPN 2010	Intermediate Japanese I	
CHI 2020	Intermediate Chinese II	
or JPN 2020	Intermediate Japanese II	
Language 2		16
CHI 1010	Elementary Chinese I	
or JPN 1010	Elementary Japanese I	
CHI 1020	Elementary Chinese	
or JPN 1020	Elementary Japanese II	

CHI 2010	Intermediate Chinese	
or JPN 2010	Intermediate Japanese I	
CHI 2020	Intermediate Chinese II	
or JPN 2020	Intermediate Japanese II	
Advanced Language or Linguistics		3
CHI 3100	Advanced Chinese I	
JPN 3010	Advanced Japanese I	
CHI/JPN 5220/LIN 5100	Languages of Asia	
East Asian Studies		3
ASN/HIS 1700	East Asia to the 1700s	
ASN/HIS 1710	History of Modern East Asia	
CHI/JPN 5220/LIN 5100	Languages of Asia	
PS 3770	Politics of East Asia (Region Specific)	
Region Specific (6 credits in either Chinese or Japanese Studies)		6
CHI 2050	Gateway to Chinese Civilizations	
CHI 3000	Chinese Mythology and the Supernatural	
CHI 3022	Introduction to Chinese Literature	
CHI 5210	Introduction to Chinese Linguistics	
CHI 5230	Grammar of Chinese	
CHI 5300	Teaching Chinese as a Second Language	
PHI 2150	Chinese Philosophy	
JPN 2710	Japanese Culture	
JPN 2800	Culture Studies in Japan (Homestay and Study Abroad Tour)	
JPN 4550	Japanese Culture and Society I	
JPN 4560	Japanese Culture and Society II	
JPN 4850	Studies in Japanese Culture	
JPN 5999	Internship in Japanese Studies	
ASN 5865	Modern Japan	
Total Credits		36

Joint Culture Concentration

The Joint Culture Concentration provides some foundation in language but focuses on general East Asian Studies. It requires thirty-six credits consisting of:

Code	Title	Credits
Language		8
CHI 1010	Elementary Chinese I	
or JPN 1010	Elementary Japanese I	
CHI 1020	Elementary Chinese	
or JPN 1020	Elementary Japanese II	
East Asian Studies		10
ASN/HIS 1700	East Asia to the 1700s	
or ASN/HIS 1710	History of Modern East Asia	
CHI/JPN 5220/LIN 5100	Languages of Asia	
PS 3770	Politics of East Asia	
Electives		18
Language Courses (no more than 8 credits)		
CHI 1010	Elementary Chinese I	
CHI 1020	Elementary Chinese	
CHI 2010	Intermediate Chinese	
JPN 1010	Elementary Japanese I	
JPN 1020	Elementary Japanese II	
JPN 2010	Intermediate Japanese I	
Culture Courses		
ASN 3995	Special Topics in East Asian Studies	
ASN/HIS 5825	Readings in the History of Modern China	
ASN/HIS 5855	Pre-Modern Japan	
ASN/HIS 5865	Modern Japan	
ASN/HIS/GSW 5875	Gender in Modern East Asia	
CHI 1005	Introduction to Chinese Culture and Language	
CHI 2050	Gateway to Chinese Civilizations	
CHI 3000	Chinese Mythology and the Supernatural	
CHI 3010	Contemporary Chinese Pop Culture	
CHI 3022	Introduction to Chinese Literature	
CHI/JPN 5220/LIN 5100	Languages of Asia	
PHI 2150	Chinese Philosophy	
JPN 2710	Japanese Culture	
JPN/ASN 2800	Culture Studies in Japan (Homestay and Study Abroad Tour)	
JPN 4550	Japanese Culture and Society I	
JPN 4560	Japanese Culture and Society II	
JPN 4850	Studies in Japanese Culture	
JPN 5999	Internship in Japanese Studies	
Total Credits		36

Classics (B.A.)

The study of other languages, literatures, and cultures not only provides important perspectives on the world, but also sharpens analytical and reasoning skills, deepens understanding of English, and enhances the quality of one's writing. Linguistic and broadly-based cultural studies provide excellent grounding for various professional programs, including law, business, medicine or health sciences, teaching at the high school or university level, library and information science, and museum practice.

Students should refer to the CMLLC program requirements (p. 236) for admission, degree, and general education requirements. A major in Classics consists of satisfying one of the following sets of concentration requirements:

Latin Major Concentration

Code	Title	Credits
Twenty-four credits in Latin (exclusive of LAT 1010 and LAT 1020) with minimum of 8 credits at the 5000-level or above		24
CLA 1010 & CLA 2000	Classical Civilization and Greek Mythology (both preferably taken during the freshman or sophomore year)	6
CLA 3825	Survey of Latin Literature	3
One additional CLA course at the 2000-level or above		3-4
Total Credits		36-37

Classical Civilization Concentration

Code	Title	Credits
CLA 1010 & CLA 2000	Classical Civilization and Greek Mythology (both preferably taken during the freshman or sophomore year)	6
CLA 3150	Athens and the Ancient Greek World	3

CLA 3700	The Golden Age of Rome	3
GKA 2020	Intermediate Ancient Greek II	4
or LAT 2020	Intermediate Latin II	
PHI 2100	Ancient Greek Philosophy	3
CLA 3800	Survey of Greek Literature	3
CLA 3825	Survey of Latin Literature	3
Students must take at least 6 credits at the 5000-level or above in CLA, LAT, or GKA		
Electives (select two courses from the list below)		6
No course can be taken as a requirement and an elective.		
Total Credits		31

Classical Civilization Concentration Elective List

Code	Title	Credits
Art History		
AH 3070	Art and Archeology of Ancient Egypt	
AH 3240	Mythology in Greek Art	
AH 5210	Hellenistic Art	
AH 5250	Ancient Rome	
AH 5260	Classical Greek Art	
AH 5270	Roman Painting and Sculpture	
AH 5310	The Ancient City of Athens	
Anthropology		
ANT 3200	Lost Cities and Ancient Civilizations	
ANT 5270	Concepts and Techniques in Archaeology	
ANT 5600	Museum Studies	
Classics		
CLA 2200	Introduction to Greek Tragedy	
CLA 2300	Ancient Comedy	
CLA 3050/5050	Cleopatra	
CLA 3060	Medea in African American Literature	
CLA 3150/5150	Athens and the Ancient Greek World	
CLA 3190/5190	Topics on Women in Antiquity	
CLA 3350/5350	Plutarch's Lives of the Noble Greeks and Romans	
CLA 3530/5530	The World of Early Christianity	
CLA 3590/5590	Byzantine Civilization	
CLA 3700/5700	The Golden Age of Rome	
CLA 3720/5720	Greek Identity from Antiquity to Modernity	
CLA 3800/5800	Survey of Greek Literature	
CLA 3825/5825	Survey of Latin Literature	
CLA 3999/6260	Further Studies in Mythology	
CLA 5200	Special Studies	
Greek - Ancient (GKA)		
Any GKA course if Latin is the major language		
Greek - Modern (GKM)		
GKM 3710	Modern Greek Literature and Culture in English	
History		
HIS 5330	History of Ancient Greece	
HIS 5335	History of the Hellenistic Age	
HIS 5340	History of Ancient Rome	
HIS 5345	Rome and the Barbarians	
HIS 5360	The Early Middle Ages: 300-1000	
HIS 5395	Social History of the Roman Empire	
Latin		
Any course if Ancient Greek (GKA) is the major language		
Near Eastern Studies		
NE 2010	The Bible and Ancient Mythology	
Philosophy		
PHI 2100	Ancient Greek Philosophy	
PHI 2140	Ancient Greek Medicine and Psychology	
PHI 5400	The Presocratics and Sophists	4
PHI 5410	Plato	4
PHI 5420	Aristotle	
Political Science		
PS 3530	Great Political Thinkers I	

Recommended Cognate Courses: All majors in the Department are strongly urged to take as many courses as possible from the list above and in the literatures of other languages, including English.

Latin: Combined Curriculum for Secondary Teaching

Students who are preparing to teach Latin in the secondary schools and who wish to obtain a B.A. degree with a concentration in Latin must complete the concentration in Latin as outlined above and the requirements for this curriculum set by the College of Education. For further information, see Combined Curriculum for Secondary Teaching. (p. 223)

Classics Honors (B.A. Program)

In order to graduate with Honors in Classics, a student must complete all requirements for a major in Classics (see above); must maintain an overall g.p.a. of 3.3, and a g.p.a. of 3.5 in courses in the major; must complete a minimum of fifteen Honors option/and/or Honors designated credits, including one three-credit Honors seminar (HON 4200-HON 4280), and three credits of CLA 4998 (Honors Thesis) involving a senior essay, thesis or project under the supervision of a full-time faculty member of the Classics area.

Eligible students who are interested in the program should consult the department undergraduate advisor. For information about honors-designated coursework available each semester, including the required 4000-level Honors seminar, visit the Honors College website (http://www.honors.wayne.edu/classes.php).

German (B.A.)

The study of other languages, literatures, and cultures not only provides important perspectives on the world, but also sharpens analytical and reasoning skills, deepens understanding of English, and enhances the quality of one's writing. Linguistic and broadly-based cultural studies provide excellent grounding for various professional programs, including law, business, medicine or health sciences, teaching at the high school or university level, library and information science, and museum practice.

Students should refer to the CMLLC program requirements (p. 236) for admission, degree, and general education requirements. A major in

German must satisfactorily complete thirty-one credits in German courses, including:

Code	Title	Credits
Intermediate German		10
GER 2020	Everyday Encounters in Language and Culture	
GER 3100	Engaging Historical Moments	
GER 3200	Exploring Modern Identities	
English Language Requirements		9
Required		
German Culture:		
GER 2710	Resistance, Rebellion, Revolution: Transitional Moments in German Culture and History	
Electives (select one course from two of the following categories)		
German History:		
HIS 5460	History of the Holocaust	
or HIS 5480	Nazi Germany	
Intercultural Communication:		
GLS 2900		
Textual Analysis in the Context of Global Literature:		
GER 2991	Understanding the Fairy Tale	
or GLS 2700	Introduction to Global Stories	
Advanced German Sequence (select two of the following) [1]		6
GER 4600	Products, Perspectives, and Practices of Culture	
GER 5100	Advanced Rhetoric and Composition	
GER 5210	German Translation Studies	
Advanced Textual and Cultural Analysis (select two of the following) [2]		6
GER 5350	German Film	
GER 5390	Holocaust Studies	
GER 5400	Cultural Studies and Criticism	
GER 5770	Modernism	
GER 5780	Texts and Contexts Since 1945	
GER 5790	Topics in German Studies	
GER 5800	Literature and Cultures of Minorities	
GER 5999	Internship in German Studies	
LGL 5850	Foreign Language Instruction	
Total Credits		31

[1] One course in this sequence must be taken at the main Wayne State campus in Detroit, MI.

[2] One of the two courses selected to satisfy this requirement must be taught in German.

Majors are strongly encouraged to pursue a co-major, double major or minor, and/or to take general education and elective courses in related fields, such as: anthropology, art history, economics, engineering, English or another language area, film studies, gender, sexuality and women's studies, geography, global supply chain management, history, international studies, linguistics, political science, social work, sociology, and theater.

Global Studies (B.A.)

The Global Studies program is designed for students passionate about understanding and being active participants in a globalized world. Students learn about global institutions, issues, and movements from an interdisciplinary perspective by:

1. developing language skills, which are essential to global communication and cultural understanding;
2. taking core courses in humanities and social sciences that provide students with an interdisciplinary and theoretical introduction to global studies; and,
3. specializing in global politics and economies, health and environment, and cultures and identities.

Throughout the curriculum students will think critically about questions related to global justice, inequality, how globalization impacts different cultures and regions around the world, and the responsibilities of global citizenship. A Global Studies major can prepare students for careers in government, diplomacy, law, health professions, teaching, research, non-governmental organizations, development, and business.

Through the program students will.

1. demonstrate intermediate-level skills in reading, writing, speaking, and listening in one language other than English, or elementary-level skills in reading, writing, speaking, and listening in two languages other than English.
2. analyze ways in which global issues intersect with the individual and the social with respect to gender, sexuality, class, race, and ethnicity.
3. describe the processes of globalization from economic, political, environmental, historical, and cultural perspectives and how these processes impact social structures and people's everyday lives.
4. connect globalization and global issues to the local, the regional (as it relates to regional issues within nation states), and the national.

Global Experience

Students must fulfill a "Global Experience" requirement. Options for fulfilling the Global Experience requirement include:

1. an internship at a local agency that deals with global issues or is a global organization or company (GLS 5500);
2. study abroad or internship abroad;
3. field work or study abroad that is part of a specific course

All majors are also required to present their work in the form of a paper of poster session in a WSU venue.

Students wishing to pursue the major in global studies should meet with the program director and the undergraduate advisor in Classical and Modern Languages, Literatures, and Cultures for advising.

Students should refer to the CMLLC program requirements (p. 236) for admission, degree, and general education requirements.

Major requirements consist of a minimum of 33 credits distributed as follows:

Code	Title	Credits
Language Courses		
Select a minimum of three courses or 9 credits beyond 2010 in the same language sequence or complete the three-semester basic language sequence in a second language. [1]		9-12
Core Courses		
Select 3 of the 4 core courses		9
GLS 2700	Introduction to Global Stories (Select 3 of the 4 core courses)	
GLS 2800	Introduction to Global Issues and Institutions	
GLS 2900	Intercultural Competence for a Global World	
GLS 3700	Globalization: Theories, Practices, Implications	
Global Experience		

Students must fulfill a Global Experience requirement. Options for fulfilling the requirement include: 1) an internship at a local agency that deals with global issues or is a global organization (GLS 5500); 2) study abroad or internship abroad; 3) field work or study abroad that is part of a specific course.

Electives from Three Focus Areas 15

Students must take a minimum of fifteen credits from the following areas of focus: Global Politics and Economics, Global Health and Environment, Global Culture and Identities.

Global Cultures and Identities

This focus area centers on questions related to global cultures, belief systems expressed through various types of cultural artifacts (including visual art, artisanry, literature, film and media), and peoples and identities, over time and geographical areas, in conjunction with questions of gender, sexuality, class, race, and ethnicity.

AFS 3250	Politics and Culture in Anglophone Caribbean
AFS 3610	Interdisciplinary Perspectives on Foreign Culture: The Africans
ANT 3100	World Cultures
ANT 3200	Lost Cities and Ancient Civilizations
ANT 3220	The Inca and their Ancestors
ANT 3310	Language and Culture
ANT 3520	Understanding Africa: Past, Present and Future
ANT 3540	Cultures and Societies of Latin America
ANT 3550	Arab Society in Transition
ANT 5060	Urban Anthropology
ANT 5510	Pre-Columbian and Mesoamerican Civilization
ASN 1710	History of Modern East Asia
ASN 5825	Readings in the History of Modern China
ASN 5855	Pre-Modern Japan
ASN 5865	Modern Japan
ASN 5875	Gender in Modern East Asia
CHI 2050	Gateway to Chinese Civilizations
CHI 3010	Contemporary Chinese Pop Culture
CLA 3720	Greek Identity from Antiquity to Modernity
ENG 2540	Literatures of the World
ENG 5080	Topics in Global and Transnational Studies
FRE 2700	Anguish and Commitment: European Existentialist Literature
FRE 2710	Introduction to French Civilization I
FRE 2720	Introduction to French Civilization II
FRE 2991	Understanding the Fairy Tale
GER 2710	Resistance, Rebellion, Revolution: Transitional Moments in German Culture and History
GER 2991	Understanding the Fairy Tale
GER 2310	Short Fiction from Central Europe and Russia
GER 2700	Anguish and Commitment: European Existentialist Literature
GER 3410	New Soil, Old Roots: The Immigrant Experience
GER 5350	German Film
GER 5790	Topics in German Studies
GLS 2900	Intercultural Competence for a Global World
GKM 3590	Byzantine Civilization
GKM 3710	Modern Greek Literature and Culture in English
GKM 3720	Greek Identity from Antiquity to Modernity
GSW 5875	Gender in Modern East Asia
HIS 1600	African Civilizations to 1800
HIS 1610	African Civilizations Since 1800
HIS 1710	History of Modern East Asia
HIS 1800	The Age of Islamic Empires: 600-1600
HIS 1810	The Modern Middle East
HIS 3010	Jewish History from the Bible to 1492
HIS 3011	Jewish History since 1492
HIS 3015	History of Judaism and Jewish Thought
HIS 3140	African American History I: 1400-1865
HIS 3150	African American History II: 1865-1968
HIS 3320	Twentieth Century Middle East
HIS 3330	Civilizations of the Nile Valley: Egypt and Nubia
HIS 5210	The Peopling of Modern America, 1790-1914: A History of Immigration
HIS 5220	The Changing Shape of Ethnic America: World War I to the Present
HIS 5234	Race in Colonial Latin America
HIS 5360	The Early Middle Ages: 300-1000
HIS 5385	History of Christianity to the Reformation
HIS 5400	Early Modern Europe
HIS 5410	The French Revolution and Napoleon
HIS 5450	Europe, 1918-1939: Mass Politics and Culture in the Age of Hitler, Stalin, and Mussolini
HIS 5480	Nazi Germany
HIS 5490	His: Russia & Eurasia to 1917
HIS 5495	History of the Russian Revolution
HIS 5500	The Soviet Union
HIS 5555	Britain in the Age of Empire
HIS 5556	History of Modern Britain
HIS 5660	France Since 1815
HIS 5825	Readings in the History of Modern China
HIS 5855	Pre-Modern Japan
HIS 5865	Modern Japan
HIS 5875	Gender in Modern East Asia
HIS 5960	Globalization, Social History and Gender in the Arabian Gulf
ITA 2700	Anguish and Commitment: European Existentialist Literature
ITA 2710	Italy and Italians I
ITA 2720	Italy and Italians II
ITA 5150	Italian Cinema
JPN 2710	Japanese Culture
JPN 2800	Culture Studies in Japan (Homestay and Study Abroad Tour)
LAS 2100	Chicano/a Literature and Culture
LAS 2110	Puerto Rican Literature and Culture
LAS 2410	History of Mexico
LAS 2420	History of Puerto Rico and Cuba
LAS 5234	Race in Colonial Latin America
LAS 5560	Spanish American Cultures and their Traditions
NE 2000	Introduction to Islamic Civilization of the Near East
NE 2030	The Age of Islamic Empires: 600-1600
NE 2040	The Modern Middle East
NE 2060	Hebrew/Israeli Film: Trends and Themes in Israeli Cinema
NE 2170	Islamic and Near Eastern Philosophy
NE 2700	Topics in Middle Eastern Studies

NE 3010	Jewish History from the Bible to 1492
NE 3011	Jewish History since 1492
NE 3015	History of Judaism and Jewish Thought
NE 3225	Modern Israeli Culture: A Pluralistic Perspective
NE 3320	Muhammad: Life of the Prophet
NE 3520	Women and Gender in Middle East History
NE 3550	Arab Society in Transition
NE 5000	Globalization, Social History and Gender in the Arabian Gulf
NE 5220	Muslim Personal Law
NE 5300	Quran: History and Interpretation
NE 5710	Islam and the Challenge of Modernity
PHI 2150	Chinese Philosophy
PHI 2170	Islamic and Near Eastern Philosophy
POL 2710	Survey of Polish Culture
POL 3410	New Soil, Old Roots: The Immigrant Experience
POL 3700	The Changing Face of Europe
POL 3750	Polish and Yugoslavian Cinema
POL 3800	Topics in Slavic Studies
RUS 2710	Introduction to Russian Culture
RUS 2991	Understanding the Fairy Tale
RUS 3410	New Soil, Old Roots: The Immigrant Experience
RUS 3600	Nineteenth Century Russian Literature
RUS 3650	Russian Literature Since 1900
RUS 3700	The Changing Face of Europe
RUS 3810	Topics in Slavic Studies
SLA 2310	Short Fiction from Central Europe and Russia
SLA 3700	The Changing Face of Europe
SLA 3410	New Soil, Old Roots: The Immigrant Experience
SLA 3710	Russian and East European Film
SLA 3750	Polish and Yugoslavian Cinema
SLA 3800	Topics in Slavic Studies
SPA 2400	Chicano/a Literature and Culture
SPA 2500	Puerto Rican Literature and Culture
US 4510	Cities and Regions

Global Health and Environment

This focus area concentrates on issues related to global public health, medical systems, and envinronmental issues such as population, pollution, and climate change over time and geographical areas, in conjunction with questions of gender, sexuality, class, race, and ethnicity.

ANT 2400	Food and Culture
ANT 3400	Introduction to Medical Anthropology
ANT 5400	Anthropology of Health and Illness
BIO 3500	Ecology and the Environment
GLS 3410	Global Health
GLS 5540	World Environmental History since 1900
ITA 3300	Science, History, and Culture of Italian Cuisine
NFS 3300	Science, History, and Culture of Italian Cuisine
PHI 1130	Environmental Ethics
PHI 1110	Ethical Issues in Health Care
UP 5430	Cities and Food

Global Politics and Economies

This focus area takes into account global political, sociological, economic, labor, and business theories, trends, histories, and configurations over time and geographical areas, in conjunction with questions related to gender, sexuality, class, race, and ethnicity.

AFS 3250	Politics and Culture in Anglophone Caribbean
AFS 3420	Pan Africanism: Politics of the Black Diaspora
ANT 2400	Food and Culture
ANT 3150	Anthropology of Business
ANT 3550	Arab Society in Transition
ANT 5165	Shop 'Til You Drop: Consumer Society and Culture
ANT 5800	Anthropological Perspectives on Business
ASN 1710	History of Modern East Asia
ASN 5825	Readings in the History of Modern China
ASN 5855	Pre-Modern Japan
ASN 5865	Modern Japan
ASN 5875	Gender in Modern East Asia
COM 2300	Intercultural Communication
COM 4560	Telecommunications Policy: A Political Economy Approach
ECO 5300	International Trade
ECO 5310	International Finance
ECO 5600	Introduction to Development Economics
FIN 5320	Principles of International Finance
GSC 5620	Global Supply Chain Management
GSC 5680	Production Planning and Control
GSW 5875	Gender in Modern East Asia
HIS 1400	The World Since 1945
HIS 1600	African Civilizations to 1800
HIS 1610	African Civilizations Since 1800
HIS 1710	History of Modern East Asia
HIS 1810	The Modern Middle East
HIS 1910	Latin America from Independence to the Present
HIS 2440	History of Mexico
HIS 3320	Twentieth Century Middle East
HIS 5130	American Foreign Relations Since 1933
HIS 5440	Twentieth Century Europe
HIS 5490	His: Russia & Eurasia to 1917
HIS 5495	History of the Russian Revolution
HIS 5500	The Soviet Union
HIS 5556	History of Modern Britain
HIS 5660	France Since 1815
HIS 5665	Global Cities
HIS 5825	Readings in the History of Modern China
HIS 5875	Gender in Modern East Asia
HIS 5855	Pre-Modern Japan
HIS 5865	Modern Japan
HIS 5960	Globalization, Social History and Gender in the Arabian Gulf
ITA 3200	Italian Rebels
MKT 5750	International Marketing Management
NE 3040	Twentieth Century Middle East
NE 5000	Globalization, Social History and Gender in the Arabian Gulf
PHI 1100	Contemporary Moral Issues
PHI 2330	Introduction to Social and Political Philosophy
PS 2700	Introduction to Canadian Studies

PS 2710	Introduction to Comparative Politics
PS 2810	World Politics
PS 3710	Politics of Western Europe
PS 3715	Politics of Central and Eastern Europe
PS 3735	Politics of Latin America
PS 3795	Latin America in World Affairs
PS 3770	Politics of East Asia
PS 3811	Theory of World Politics
PS 3835	Middle East Conflict
PS 4725	Globalization and Politics
PS 4810	Foreign Policies of Major Powers
PS 5710	Politics of Europe and the European Union
PS 5740	Ethnicity: The Politics of Conflict and Cooperation
PS 6870	United States Foreign Relations Law
UP 5430	Cities and Food
Total Credits	33-36

[1] For language courses, please see languages offered in Classical and Modern Languages, Literatures, and Cultures. Students must receive a passing grade (C) in their language courses for them to count towards the GLS major.

[3] Areas of focus allow students to specialize within the program in ways that enhance their academic and professional goals. A minimum of 6 credits must be at the 4000-level or above.

Near Eastern Studies (B.A.)

The study of other languages, literatures, and cultures not only provides important perspectives on the world, but also sharpens analytical and reasoning skills, deepens understanding of English, and enhances the quality of one's writing. Linguistic and broadly-based cultural studies provide excellent grounding for various professional programs, including law, business, medicine or health sciences, teaching at the high school or university level, library and information science, and museum practice.

Students should refer to the CMLLC program requirements (p. 236) for admission, degree, and general education requirements.

Near Eastern Studies Major

A major in Near Eastern studies consists of thirty-eight credits.

Code	Title	Credits
Select eleven credits in language, linguistics, or literature beyond ARB 1020 or HEB 1020		11
Select twenty-seven credits in elective courses with no less than six credits in three of hte following four subject areas:		27
Ancient Near East		
Israeli culture/civlization		
Arab culture/Islamic civilization		
Islamic and modern Middle East history		
Total Credits		38

Near Eastern Languages Majors

A major in Near Eastern languages consists of a concentration in either Arabic or Hebrew; or joint study of both languages.

The Near Eastern Languages major with a concentration in Arabic or Hebrew consists of thirty-six credits. This includes:

Code	Title	Credits
Select twenty-four credits in language, linguistics, or literature beyond ARB 1020 or HEB 1020		24
Select twelve credits in electives courses in ancient Near East, Israeli culture/civilization, Arab culture/Islamic civilization, or Islamic and modern Middle East history		12
Total Credits		36

The Near Eastern Languages major with a joint study in both Arabic and Hebrew consists of twenty-nine credits beyond first-year proficiency in both Arabic and Hebrew. This includes:

Code	Title	Credits
Select tweleve credits in in either Arabic or Hebrew language, linguistics, or literature courses		12
Select eight credits in such courses in the other language		8
Select nine credits in elecitves courses in ancient Near East, Israeli culture/civilization, Arab culture/Islamic civilization, or Islamic and modern Middle East history		9
Total Credits		29

Romance Languages (B.A.)

The study of other languages, literatures, and cultures not only provides important perspectives on the world, but also sharpens analytical and reasoning skills, deepens understanding of English, and enhances the quality of one's writing. Linguistic and broadly-based cultural studies provide excellent grounding for various professional programs, including law, business, medicine or health sciences, teaching at the high school or university level, library and information science, and museum practice.

Students should refer to the CMLLC program requirements (p. 236) for admission, degree, and general education requirements.

All majors with concentrations in Italian and Spanish are required to take a minimum of two cognate courses approved by the advisor. They are encouraged to take as much work as possible in the literatures of other languages, both ancient and modern, as well as in history, philosophy, linguistics, art, and music.

French Major Concentration Requirements

A concentration in French consists of:

Code	Title	Credits
FRE 2100	French through Film I	4
FRE 2110	French through Film II	4
Select two from the following list of four courses:		6
FRE 2700	Anguish and Commitment: European Existentialist Literature	
FRE 2710	Introduction to French Civilization I	
FRE 2720	Introduction to French Civilization II	
FRE 2991	Understanding the Fairy Tale	
FRE 3200	French Cafe	3
FRE 3300	Prose, Poetry, and Performance	3
FRE 4620	Topics in Sociocultural Analysis	3
FRE 5100	Advanced Composition	4
FRE 5600	Translation Studies	3
FRE 6200	Renaissance to Revolution	3
or FRE 6300	Modernity, Postmodernity, and Extreme Contemporain	
Electives - select one of the following courses:		3
FRE 5200	French Phonetics and Pronunciation (Electives)	

FRE 5410	Topics in French and Francophone Culture	
FRE 5415	Topics in French and Francophone Literature	
FRE 5999	Internship in French Studies	
FRE 6620	Topics in Sociocultural Analysis	
FRE 6400	Introduction to French Linguistics	
FRE 6770	Studies in French Literature	
Total Credits		36

Italian Major Concentration Requirements

The major concentration in Italian at Wayne State University (effective Fall 2014) is designed for maximum flexibility, offering students educational choices which can help prepare them for a wide variety of careers, including teaching, diplomacy, tourism, design, fine and performing arts, music, law, medicine, and international business, among others. A student with a particular historical or thematic interest can focus on history, art, music, literature, international studies, and other studies while completing a major concentration or a minor in Italian.

The major concentration in Italian requires a total of thirty-six credits beyond the basic language sequence (ITA 1010, ITA 1020, and ITA 2010). Majors are required to take ITA 2020 and an additional thirty-three credits, with at least two courses in each of three groupings: Language and Culture, Literature and Culture before 1700, and Literature and Culture after 1700. (For a list of courses within these classifications, consult the departmental advisor.) A total of nine credits can be elected from courses offered in a number of related disciplines.

Italian Summer Program in Gagliano

Students may also take courses in Italian language, literature, and culture in the Wayne summer program in Gagliano Aterno, Italy. The Gagliano program offers students the opportunity to complete up to eight hours of course work in four weeks.

Spanish Major Concentration Requirements

A student concentrating in Spanish is required to take:

Code	Title	Credits
SPA 2025	Cultural Connections, Grammar and Composition I	3
SPA 3025	Cultural Connections, Grammar and Composition II	3
SPA 3300	Introduction to Cultural and Literary Analysis	3
SPA 4610	Introduction to Early Modern Spanish Literature	3
or SPA 4620	Introduction to Modern and Contemporary Spanish Literature	
SPA 4630	Introduction to Colonial Latin American Literature	3
or SPA 4640	Introduction to Modern and Contemporary Latin American Literature	
SPA 5100	Advanced Composition	3
SPA 5200	Spanish Phonetics	3
Select two of the following:		6
SPA 3200	Conversation	
SPA 5550	Spanish Culture and Its Tradition	
SPA 5560	Spanish American Cultures and their Traditions	
SPA 5570	Topics in Hispanic Culture or Language	
SPA 5600	Advanced Conversation	
One elective at the 3000 level or above		3
One literature course at the 6000 level or above		3
Two electives at the 5000 or 6000 level		6
Total Credits		39

Foreign Languages: Teacher Preparation

Students who are preparing to teach French, Italian, or Spanish in the secondary schools and who wish to obtain a B.A. degree with a concentration in one of these languages must complete the appropriate concentration as defined above. Students interested in pursuing teacher preparation course work should also refer to the Teacher Education Division (p. 96) of the College of Education.

Business Careers Language Preparation

Foreign language majors who do not plan to teach may wish to consider a series of courses in the Mike Ilitch School of Business which will provide some background for potential employment with multinational corporations. These courses will also prepare them for entrance into the Master of Business Administration degree program after completion of the B.A. For information, contact the Associate Dean of the Mike Ilitch School of Business, 226 Prentis Building, telephone: 313-577-4503.

Slavic Studies (B.A.)

The study of other languages, literatures, and cultures not only provides important perspectives on the world, but also sharpens analytical and reasoning skills, deepens understanding of English, and enhances the quality of one's writing. Linguistic and broadly-based cultural studies provide excellent grounding for various professional programs, including law, business, medicine or health sciences, teaching at the high school or university level, library and information science, and museum practice.

Students should refer to the CMLLC program requirements (p. 236) for admission, degree, and general education requirements.

Slavic Studies Major Requirements

Students majoring in Slavic Studies select: 1) a concentration in Polish or Russian. If a student's concentration is Polish, the student must also choose an interdisciplinary focus or a language focus.

Polish Concentration in Slavic Studies

Students must complete:

Code	Title	Credits
POL 2060	Composition and Conversation	4
POL 3000	Polish Grammar and Usage	4
POL 3030	Language Skills: Advanced Speaking and Writing	2-4
POL 2710	Survey of Polish Culture	3
SLA 2310	Short Fiction from Central Europe and Russia	3
SLA 3710	Russian and East European Film	3-4
or SLA 3750	Polish and Yugoslavian Cinema	
Select two of the following:		6-8
POL/SLA 3800	Topics in Slavic Studies	
RUS 3050	Russian Practicum	
RUS 5600	Nineteenth Century Russian Literature	
RUS 5650	Russian Literature Since 1900	
POL 5993	Writing Intensive Course in Polish	0
Total Credits		25-30

Polish Language Focus

In addition to the course work listed above, students concentrating in Polish with the language focus must complete two Russian language courses (p.).

Polish Interdisciplinary Focus

Code	Title	Credits
For the interdisciplinary focus, select two of the following:		6-8
ECO 1000	Survey of Economics	
ECO 2010	Principles of Microeconomics	
ECO 2020	Principles of Macroeconomics	
GPH 3200	Europe	
HIS 3010	Jewish History from the Bible to 1492	
HIS 3995	Special Topics in History (The Russian Revolution OR Marxism and Communism)	
HIS 5440	Twentieth Century Europe	
HIS 5490	His: Russia & Eurasia to 1917	
HIS 5500	The Soviet Union	
MKT 5750	International Marketing Management	
PS 2710	Introduction to Comparative Politics	
PS 3715	Politics of Central and Eastern Europe	
THR 5751	Study Abroad: Moscow Art Theatre School	
Total Credits		6-8

Russian Concentration in Slavic Studies

Students must complete:

Code	Title	Credits
RUS 2020	Intermediate Russian II	4
RUS 3010	Intermediate-Advanced Russian I	4
RUS 3020	Intermediate-Advanced Russian II	4
RUS 2710	Introduction to Russian Culture	3
RUS 5993	Writing Intensive Course in Russian	0
15 credits from among the following courses: [1]		15
Russian/Slavic Courses		
RUS 2030	Russian Conversation	
RUS 2991	Understanding the Fairy Tale	
RUS 3010	Intermediate-Advanced Russian I [2]	
RUS 3020	Intermediate-Advanced Russian II [2]	
RUS 3050	Russian Practicum	
RUS 3070	Russian Listening Comprehension II	
RUS 3250	Reading Russian	
RUS/SLA/POL 3410	New Soil, Old Roots: The Immigrant Experience	
RUS 3600/5600	Nineteenth Century Russian Literature	
RUS 3650/5650	Russian Literature Since 1900	
RUS/SLA/POL 3700	The Changing Face of Europe	
RUS 3810/ SLA 3800/POL 3800	Topics in Slavic Studies	
SLA 2310	Short Fiction from Central Europe and Russia	
SLA 3710	Russian and East European Film	
SLA 3750	Polish and Yugoslavian Cinema	
Interdisciplinary Courses		
ECO 2010	Principles of Microeconomics	
ECO 2020	Principles of Macroeconomics	
GKM 3590	Byzantine Civilization	
GPH 3200	Europe	
HIS 3995	Special Topics in History	
HIS 5490	His: Russia & Eurasia to 1917	
HIS 5500	The Soviet Union	
HIS 5440	Twentieth Century Europe	
MKT 5750	International Marketing Management	
PS 2510	Introduction to Political Ideologies	
PS 2710	Introduction to Comparative Politics	
PS 3710	Politics of Western Europe	
PS 3715	Politics of Central and Eastern Europe	
PS 4810	Foreign Policies of Major Powers	
Polish Courses		
POL 1010	Elementary Polish I	
POL 1020	Elementary Polish II	
POL 2010	Intermediate Polish	
POL 2030	Polish Conversation	
POL 2035	Polish Conversation II	
POL 2060	Composition and Conversation	
POL 2710	Survey of Polish Culture	
POL 3000	Polish Grammar and Usage	
POL 3030	Language Skills: Advanced Speaking and Writing	
POL 3060	Medical Polish I	
POL 3061	Medical Polish II	
Total Credits		30

1 Can include up to 6 credits in interdisciplinary courses and up to 8 credits in Polish language courses.

2 Can be taken a second time as a 4th year student.

Arabic Minor

A minor in Arabic consists of eighteen credits.

Code	Title	Credits
Select twelve credits in Arabic language, linguistics or literature beyond ARB 1020		12
Select six credits in cognate courses in related areas such as :		6
NE 2000	Introduction to Islamic Civilization of the Near East	
NE 2030	The Age of Islamic Empires: 600-1600	
NE 2040	The Modern Middle East	
NE 3550	Arab Society in Transition	
Total Credits		18

Asian Studies Minor

A minor in Asian Studies consists of a minimum of twenty-two credits.

Code	Title	Credits
Select sixteen credits in the first four semesters of the language sequences in Chinese or Japanese		16
Select six credits in elective courses related to the langague		6
Total Credits		22

Classical Civilization Minor

A minor in Classical Civilization consists of twenty credits distributed as follows:

Code	Title	Credits
Select one of the following:		8
GKA 1010 & GKA 1020	Elementary Ancient Greek I and Elementary Ancient Greek II	
or		
LAT 1010 & LAT 1020	Elementary Latin I and Elementary Latin II	
CLA 1010	Classical Civilization	3
or CLA 2000	Greek Mythology	
CLA 3150	Athens and the Ancient Greek World	3
or CLA 3700	The Golden Age of Rome	
CLA 3800	Survey of Greek Literature	3
or CLA 3825	Survey of Latin Literature	
Elective course [1]		3
Total Credits		20

[1] The approved list of electives is available in the Classics major section (p. 238).

Folklore and Fairy-Tale Studies Minor

The minor in Folklore and Fairy-Tale Studies aims to provide students with an interdisciplinary foundation in the field of folklore and fairy-tale studies. The core courses include the study of 1) Greek mythology; 2) French, German, Italian, and Russian tales; and 3) Anthropology. Together they provide a solid background to understand the history of European, African, Native American, Asian and other world traditions of myth, ritual, folklore, and fairy tale. Students appreciate the different historical, social, political, and cultural contexts in which tale telling and other cultural narratives are produced, and it also introduces them to different genres and medias in which storytelling and cultural practices occur.

A minor in Folklore and Fairy-Tale Studies can be completed with eighteen credits of coursework.

Code	Title	Credits
Required courses:		12
ANT 3100	World Cultures	
CLA 2000	Greek Mythology	
FRE/GER 2991	Understanding the Fairy Tale	
RUS 2991	Understanding the Fairy Tale	
Electives *		6
ANT 3200	Lost Cities and Ancient Civilizations	
ANT 3520	Understanding Africa: Past, Present and Future	
ANT 3530	Native Americans	
CLA 3060	Medea in African American Literature	
CLA 3999	Further Studies in Mythology	
ENG 2560	Children's Literature: Literature and Writing	
GER 5790	Topics in German Studies	
Total Credits		18

* Courses that share the learning objectives of the minor and that are not listed here may count towards the minor. Please consult with the CMLLC undergraduate advisor about available courses each semester.

French Minor

Requirements:

Code	Title	Credits
FRE 2010	Intermediate French	4
FRE 2710	Introduction to French Civilization I	3
or FRE 2720	Introduction to French Civilization II	
FRE 2100	French through Film I	4
FRE 2110	French through Film II	4
FRE 3300	Prose, Poetry, and Performance	3
or FRE 3200	French Cafe	
FRE 4620	Topics in Sociocultural Analysis	3
One 5000- or 6000-level course		3
Total Credits		24

German Minor

A minor in German requires a minimum of 19 credits.

Code	Title	Credits
Intermediate German		10
GER 2020	Everyday Encounters in Language and Culture	
GER 3100	Engaging Historical Moments	
GER 3200	Exploring Modern Identities	
German Culture		3
GER 2710	Resistance, Rebellion, Revolution: Transitional Moments in German Culture and History	
Electives (select one course from two of the following categories)		6
German History:		
HIS 5460	History of the Holocaust	
or HIS 5480	Nazi Germany	
Intercultural Communication:		
GLS 2900	Intercultural Competence for a Global World	
Internship:		
GER 5999	Internship in German Studies	
Textual Analysis in the Context of Global Literature:		
GER 2991	Understanding the Fairy Tale	
or GLS 2700	Introduction to Global Stories	
Total Credits		19

Global Studies Minor

MINOR REQUIREMENTS consist of a minimum of twenty-two credits distributed as follows:

Code	Title	Credits
Language Requirement		
1010 or equivalent		4
1020 or equivalent		4
Required Course		
GLS 3700	Globalization: Theories, Practices, Implications	3
Other Courses		
GLS 2700	Introduction to Global Stories	3
or GLS 2800	Introduction to Global Issues and Institutions	
Electives		

Select a minimum of eight credits from among the focus areas of: Global Politics and Economies, Global Health and Environment, and Global Cultures and Identities. [1]	8
Total Credits	22

[1] Focus areas allow students to specialize within the program in ways that enhance their academic and professional goals. Students are expected to consult with the Global Studies advisor when choosing their electives See list of focus area courses under the Global Studies major. (p.)

Modern Greek Studies Minor

A Minor in Modern Greek Studies consists of twenty-two credits distributed as follows:

Code	Title	Credits
Select four courses in Modern Greek language including the sequence GKM 1010, GKM 1020, GKM 2010, GKYM 2020		16
Select one course in Modern Greek language or culture at the 3000-level or above		3-4
Select one of the following in Classics:		3-4
CLA 1010	Classical Civilization	
CLA 2000	Greek Mythology	
CLA 2200	Introduction to Greek Tragedy	
CLA 3150	Athens and the Ancient Greek World	
CLA 3190	Topics on Women in Antiquity	
CLA 3300	Coins and Coinage of the Greeks and Romans	
CLA 3600		
CLA 3700	The Golden Age of Rome	
CLA 3999	Further Studies in Mythology	
CLA 5200	Special Studies	
HIS 5330	History of Ancient Greece	
HIS 5340	History of Ancient Rome	
PHI 2100	Ancient Greek Philosophy	
PHI 5400	The Presocratics and Sophists	
PHI 5410	Plato	
PHI 5420	Aristotle	
Total Credits		22-24

Students who place out of any of the GKM language sequence courses by exam must fulfill the corresponding credits at the 3000 level.

Recommended Cognate Courses: All minors in the Department are strongly urged to take as many courses as possible from the list under Major Requirements (p. 238), as well as in the literatures of other languages, including English.

Israeli Studies Minor

A minor in Hebrew consists of eighteen credits.

Code	Title	Credits
HEB 1010	Elementary Hebrew I	4
HEB 1020	Elementary Hebrew II	4
NE 2060	Hebrew/Israeli Film: Trends and Themes in Israeli Cinema	3
NE 3040	Twentieth Century Middle East	3
NE 3225	Modern Israeli Culture: A Pluralistic Perspective	3
NE 3990	Directed Study	1
or		
NE 5990	Directed Study	
Total Credits		18

Italian Minor

A minor in Italian can be completed with eighteen credits of course work beyond the basic language sequence (ITA 1010, ITA 1020, and ITA 2010).

Code	Title	Credits
ITA 2020	Italian through Film	3
Select fifteen additional credits in Italian [1]		15
Total Credits		18

[1] At least one 5000 or 6000 level course in Italian is required.

Latin Minor

A minor in Latin consists of twenty credits.

Code	Title	Credits
16 credits of LAT courses, excluding LAT 1010 and LAT 1020		16
Select one of the following:		3
CLA 3700	The Golden Age of Rome	
CLA 3825	Survey of Latin Literature	
Total Credits		19

Near Eastern Studies Minor

A minor in Near Eastern Studies consists of seventeen credits.

Code	Title	Credits
Select nine credits in NE courses beyond NE 1900		9
Select eight credits in Arabic or Hebrew courses beyond ARB 1020 or HEB 1020		8
Total Credits		17

Polish Minor

Students wishing to obtain a minor in Polish shall complete:

Code	Title	Credits
POL 2060	Composition and Conversation	4
POL 3000	Polish Grammar and Usage	4
POL 3030	Language Skills: Advanced Speaking and Writing	2-4
POL 2710	Survey of Polish Culture	3
Select one of the following:		3-4
SLA 2310	Short Fiction from Central Europe and Russia	
SLA 3710	Russian and East European Film	
POL 3750	Polish and Yugoslavian Cinema	
or POL 3800	Topics in Slavic Studies	
Total Credits		16-19

Russian Minor

Students wishing to obtain a minor in Russian shall complete:

Code	Title	Credits
RUS 2020	Intermediate Russian II	4
RUS 3010	Intermediate-Advanced Russian I	4

RUS 3020	Intermediate-Advanced Russian II	4
RUS 2710	Introduction to Russian Culture	3
Select 3-4 credits of the following:		3-4
RUS 2030	Russian Conversation	
RUS 3600	Nineteenth Century Russian Literature	
RUS 2991	Understanding the Fairy Tale	
RUS 3010	Intermediate-Advanced Russian I	
RUS 3020	Intermediate-Advanced Russian II	
RUS 3050	Russian Practicum	
RUS 3070	Russian Listening Comprehension II	
RUS 3250	Reading Russian	
RUS/SLA/POL/ARM 3410	New Soil, Old Roots: The Immigrant Experience	
RUS 3650/5650	Russian Literature Since 1900	
RUS/SLA/POL 3700	The Changing Face of Europe	
RUS 3810/ SLA 3800	Topics in Slavic Studies	
SLA 2310	Short Fiction from Central Europe and Russia	
SLA 3710	Russian and East European Film	
SLA 3750	Polish and Yugoslavian Cinema	
Total Credits		18-19

Spanish Minor

Requirements: A minor in Spanish requires the completion of 18 credits beyond SPA 2010:

Code	Title	Credits
SPA 3300	Introduction to Cultural and Literary Analysis	3
Select five other courses from the following (with guidance of undergraduate advisor):		15
SPA 2025	Cultural Connections, Grammar and Composition I	
SPA 3025	Cultural Connections, Grammar and Composition II	
SPA 3040	Commercial Spanish	
SPA 3050	Spanish for the Health Care Profession	
SPA 3200	Conversation	
SPA 5100	Advanced Composition	
SPA 5200	Spanish Phonetics	
SPA 5300	Advanced Grammar and Stylistics	
SPA 5400	Introduction to Professional and Literary Translation	
SPA 6400	Introduction to Hispanic Linguistics	
SPA 5550	Spanish Culture and Its Tradition	
SPA 5560	Spanish American Cultures and their Traditions	
SPA 5570	Topics in Hispanic Culture or Language	
SPA 4610	Introduction to Early Modern Spanish Literature	
SPA 4620	Introduction to Modern and Contemporary Spanish Literature	
SPA 4630	Introduction to Colonial Latin American Literature	
SPA 4640	Introduction to Modern and Contemporary Latin American Literature	
Any 6000-level literature course		
Total Credits		18

Communication Sciences and Disorders

Office: 207 Rackham Memorial Building; 313-577-3339
Chairperson: Margaret Greenwald
Graduate Officer: Derek Daniels
Undergraduate Advisor: Faith Williams
Clinical Program Coordinators: Karen S. O'Leary, Mary Kassa
http://www.clas.wayne.edu/csd

This department offers courses related to the study of communication and communication disorders and sciences. Specialized coursework prepares students to work with speech-language and hearing disabled children and adults in a variety of settings, including public schools, hospitals, clinics, rehabilitation centers and private practice. College teaching and research are also career possibilities.

Initial questions about the major should be directed to the Undergraduate Advisor, 207 Rackham Memorial Building (313-577-3339).

- Communication Sciences and Disorders (B.A.) (p. 248)

Communication Sciences and Disorders (B.A.)

This department offers courses related to the study of communication and communication disorders and sciences. Specialized coursework prepares students to work with speech-language and hearing disabled children and adults in a variety of settings, including the public schools, hospitals, clinics, rehabilitation centers and private practice. College teaching and research are also career possibilities.

Undergraduate students in this specialization should note that graduate study is required for clinical certification by the American Speech-Language-Hearing Association (ASHA). A master's degree is required for speech-language pathologists and a doctoral degree is required for audiologists. Study in this major at the undergraduate level provides a scientific foundation for graduate study in both audiology and speech-language pathology as well as other science and health professions.

Students interested in pursuing doctoral study should contact the graduate officer.

Admission Requirements

Admission requirements for this program are satisfied by the general requirements for undergraduate admission (p. 22) to the University.

Candidates must complete 120 credits in course work including satisfaction of the University General Education Requirements (p. 34) and the College of Liberal Arts and Sciences Group Requirements (p. 222), as well as the departmental major requirements cited below. All course work must be completed in accordance with the regulations of the University (p. 11) and the College (p. 221) governing undergraduate scholarship and degrees. Students must receive a grade of C-minus or better in all biology courses.

It is expected that a major will complete at least thirty-three credits in SLP and AUD course work. Any credits elected over the maximum forty-six must have prior approval of both advisor and Chairperson if the additional credits are to count toward the degree (120 credits). A proper distribution of courses approved by the student's advisor is important. It is desirable that students intending to major in communication sciences and disorders begin their work in the Department in their sophomore year. Courses in the major should be selected in consultation with a Departmental undergraduate advisor. Students are encouraged to begin

consulting with the undergraduate advisor during their freshman year. The declaration of major form should be completed as soon as possible in their undergraduate program. In addition, students should see the department advisor to discuss grade point average (GPA) policies and the course sequence. The Department allows one repeat of undergraduate courses. The specific courses that can be repeated depend on whether the student has met the GPA requirements.

Major Requirements for a Bachelor of Arts degree in this discipline consist of the following courses:

Code	Title	Credits
SLP 5080	Phonetics	3
SLP 5090	Anatomy and Physiology of the Speech Mechanism	3
SLP 5120	Speech Science	3
SLP 5300	Introduction to Speech-Language Pathology	3
SLP 5310	Clinical Methods in Communication Disorders	3
SLP 5320	Normal Language Acquisition and Usage	3
SLP 5360	Clinical Practice in Speech-Language Pathology	3
SLP 6460	Language and Phonological Disorders	3
SLP 6480	Organic and Fluency Disorders	3
AUD 5400	Introduction to Audiology	3
AUD 5420	Introduction to Aural Rehabilitation	3
Total Credits		33

It is departmental policy that a student who earns a grade of C or below in two or more of the CSD foundation courses (SLP 5300, SLP 5320, SLP 5080, SLP 5090, and AUD 5400) will not be allowed to register for advanced coursework. Departmental permission is required to register for the six advanced courses in the major which are:

Code	Title	Credits
SLP 5120	Speech Science	3
SLP 5310	Clinical Methods in Communication Disorders	3
SLP 5360	Clinical Practice in Speech-Language Pathology	3
AUD 5420	Introduction to Aural Rehabilitation	3
SLP 6460	Language and Phonological Disorders	3
SLP 6480	Organic and Fluency Disorders	3

Students will not be granted permission to register for the advanced coursework unless they have and maintain an overall 2.75 GPA, and maintain a 3.0 GPA within the major coursework. Students who do not meet these requirements will not be able to complete the major courses required to earn the Bachelor of Arts in Communication Sciences and Disorders. In addition, in order to meet certification requirements of the American Speech-Language-Hearing Association after graduate school, it is strongly recommended that all undergraduate majors complete the following courses:

Code	Title	Credits
STA 1020	Elementary Statistics	3
PHY 1020	Conceptual Physics: The Basic Science	4
or CHM 1000	Chemistry and Your World	
BIO 1050	An Introduction to Life (with laboratory)	4
or BIO 1030	Biology Today	
PSY 1010	Introductory Psychology (with laboratory)	4
or PSY 1020	Elements of Psychology	
SOC 1010	Understanding Human Society	3
or ANT 1100	Introduction to Anthropology	
Transfer equivalents		

It is Departmental policy that a student may earn no more than one grade of C or below in the CSD foundation courses (SLP 5300, SLP 5320, SLP 5080, SLP 5090, and AUD 5400). If two or more grades of C or below are earned, students will not be allowed to register for advanced coursework. Students must also have and maintain an overall GPA of 2.75 and major GPA of 3.0 to register for advanced coursework in any given semester.

ALSO NOTE: Department permission is required to register for advanced courses (SLP 5120, SLP 5310, SLP 6460, SLP 6480 and AUD 5420). Students will be granted permission to register only if they maintain a GPA of 3.0 for courses in the major and an overall GPA of 2.75.

Computer Science

The Bachelor of Arts curriculum is designed to provide a strong academic foundation in both the principles and methodologies of computer systems, software development, and programming that are necessary to solve real-world problems. Students planning to earn a graduate degree in computer science are strongly advised to seek the Bachelor of Science degree in computer science (p. 151) offered by the College of Engineering.

Admission Requirements

Admission requirements for this program are satisfied by the general requirements for undergraduate admission (p. 22) to the University.

Academic Regulations

Academic Probation: A student is considered to be on academic probation whenever his or her cumulative grade point average, or his or her grade point average in the computer science program, falls below 2.0. A student may also be placed on probation whenever his or her academic performance is deemed unsatisfactory. If, at the end of the first semester on probation, the student's cumulative grade point average has not increased to at least 2.0, he or she will be excluded from the Department of Computer Science. If the student's cumulative g.p.a. reaches at least 2.0 by the end of the first semester after being placed on probation, he or she will be returned to regular status. Following exclusion from the Department of Computer Science, the privilege of registering in the Department will be withheld for at least one calendar year.

Exclusion: A student who has been refused the privilege of registering in the Department may request a reconsideration of his or her status by the Academic Standards Committee (ASC) after the one-year exclusionary period. He or she should not make the request, however, unless evidence can be provided of changes in academic preparation or circumstances that will substantially increase the likelihood of academic success. A formal written request for reconsideration must be presented to the Associate Dean for Academic Affairs. Students who plan to petition for readmission are encouraged to request a meeting with the ASC as early as possible during the exclusion period to discuss what changes may provide an opportunity for readmission. In no case is readmission to the Department of Computer Science guaranteed.

Repeated Courses and Substandard Grades: Students will be allowed up to a maximum of five repeated courses, one repeated course for a substandard grade. If a student must repeat a subsequent course in order to complete their degree, he or she will be excluded from the Department of Computer Science (i.e., students must complete a course within three attempts). Prerequisite math and science courses that do not satisfy degree requirements, but are required if students did not place into MAT 2010, are also counted toward exclusion from the Department.

A substandard grade is defined as a grade lower than the minimum requirement (i.e., a grade of C-minus in CSC 1100/1101, or a WP/WF/WN).

Candidates must complete 120 credits in course work including satisfaction of the University General Education Requirements (p. 34) and the College of Liberal Arts and Sciences Group Requirements (p. 222), as well as the departmental major requirements cited below. All course work must be completed in accordance with the regulations of the University (p. 11) and the College (p. 221) governing undergraduate scholarship and degrees.

Course Requirements

(Please note that the core courses include mandatory instructional labs. These laboratories must be taken concurrently with their corequisite lecture.)

Code	Title	Credits
MAT 2010	Calculus I	4
STA 2210	Probability and Statistics	4
or BE 2100	Basic Engineering III: Probability and Statistics in Engineering	
CSC 1100	Problem Solving and Programming	3
CSC 1101	Problem Solving and Programming Laboratory	1
CSC 1500	Fundamental Structures in Computer Science	3
CSC 1501	Fundamental Structures in Computer Science Lab	1
CSC 2110	Computer Science I	3
CSC 2111	Computer Science I Lab	1
CSC 2200	Computer Science II	3
CSC 2201	Computer Science II: Lab	1
CSC 3010	Ethics in Computer Science	3
CSC 3100	Computer Architecture and Organization	3
CSC 3101	Computer Architecture and Organization: Lab	1
CSC 4110	Software Engineering	3
CSC 4111	Software Engineering: Lab	1
CSC 4420	Computer Operating Systems	3
CSC 4421	Computer Operating Systems: Lab	1
CSC 4996	Senior Project and Computer Ethics	3
CSC 4997	Senior Project Lab	1
Four additional Computer Science courses of at least three credits each, numbered 3000 or above [1]		12

[1] excluding CSC 4990 and CSC 4995

A minimum of twenty-six credits in computer science must be earned at Wayne State University.

A minimum grade of C is required for the following respectively:

Code	Title	Credits
CSC 1100	Problem Solving and Programming	3
CSC 1101	Problem Solving and Programming Laboratory	1
CSC 1500	Fundamental Structures in Computer Science	3
CSC 1501	Fundamental Structures in Computer Science Lab	1
CSC 2110	Computer Science I	3
CSC 2111	Computer Science I Lab	1
CSC 2200	Computer Science II	3
CSC 2201	Computer Science II: Lab	1

A minimum grade of C- is required for all other CSC and MAT courses.

Students declaring their major should consult an advisor for a written assessment of current requirements.

Criminal Justice

Office: 3054 Faculty/Administration Building; 313-577-2705
Chairperson: Shanhe Jiang
Undergraduate Director: Charles Klahm IV
Academic Services Officer/Advisor: Marianka Holloway
Academic Advisor III: Alicia Ortez
http://www.clas.wayne.edu/CRJ

Criminal Justice is society's primary formal means of social control. Generally, it is the practice of public and private agencies and groups that deter crime and delinquency, and that prosecute, defend, adjudicate, punish, and correct suspects and convicted offenders. The core of the criminal justice system is comprised of law enforcement agencies, prosecutors, defense attorneys, courts, and correctional agencies. This system enforces federal and state laws and is part of a larger administration of justice complex, involving court administration, juvenile justice, and private security.

The study of criminal justice begins with analysis of the entire justice system as a force for social order. Advanced study inquires into the political, organizational, social and behavioral aspects of its components. Students develop analytical and research skills that enable them to identify and assess the often conflicting objectives of criminal justice and investigate basic issues and practical problems in criminology and criminal justice. Legal courses foster an awareness of the values of due process and the limits of governmental power in a democratic society.

The Department advances a multidisciplinary understanding of the sources of criminal behaviors, including perspectives from criminology, psychology, and sociology. The curriculum exposes students to knowledge of the major types of crime, including crimes of violence, property crimes, public order crimes, sexual crimes, organized crimes, delinquent offenses, and other types of crimes. Innovative and theoretically based programs in the criminal justice system to reduce the incidence of crime are also examined.

Career opportunities in criminal justice professions include roles as police officers, supervisors, and executives; criminal justice investigators, working for public defenders, prosecutors, fire departments, and insurance companies, correctional officers, probation officers, parole officers, and community corrections specialists, for whom a college degree is often mandatory. Other specialized roles in criminal justice include juvenile intake officers, juvenile probation officers, volunteer administrators, criminologists, forensic psychologists, medical examiners, and policy analysts.

- Criminal Justice (B.S.) (p. 250)
- Criminal Justice Minor (p. 252)
- Forensic Investigation and Policing Minor (p. 252)

Criminal Justice (B.S.)

The Bachelor of Science program is structured to provide students with a multidisciplinary understanding of crime and justice within the framework of broader social processes. Required courses expose a criminal justice major to all aspects of the justice system and foster a systemic view rather than a specialization in a single component of this field. Within this broad framework, courses deal with specific substantive topics. Practical field experience can be arranged under the guidance of the internship coordinator.

The curriculum is designed to offer students a comprehensive education by providing a fundamental understanding of crime causation and the criminal justice system, together with the skills and knowledge useful in pursuing professional careers. Analytical and writing skills are developed so as to prepare students for roles in today's criminal justice agencies. Police departments, correctional facilities, and court administrators' offices require an increasing number of personnel with quantitative analytical abilities, computer skills, personal interaction skills, excellent command of English, knowledge of foreign languages, and the ability to understand legal materials.

Core Criminal Justice Courses include classes on theories of criminal behavior, criminal procedure, criminal justice institutions, criminal justice research methods, and the criminal justice process. These core courses are designed to acquaint students with problems of crime and deviance in American society, the major public institutions which deal with these problems, the legal foundation of criminal justice, and analytic research methods used to better understand the social and behavioral realities of criminal justice. Criminal justice majors must maintain a minimum 2.0 grade point average overall and in the major.

Criminal Justice Electives: A minimum of twelve credits must be selected for concentrated elective course work in the criminal justice field. The approved criminal justice electives provide a structured set of rigorous upper-division courses which are relevant to: 1) a deeper understanding of the justice process and 2) knowledge and skills in specific career areas in the field.

Admission Requirements

Admission requirements for this program are satisfied by the general requirements for undergraduate admission (p. 22) to the University.

Candidates must complete 120 credits in course work including satisfaction of the University General Education Requirements (p. 34) and the College of Liberal Arts and Sciences Group Requirements (p. 222), as well as the departmental major requirements cited below. All course work must be completed in accordance with the regulations of the University (p. 11) and the College (p. 221) governing undergraduate scholarship and degrees. It is recommended that students complete much of the General Education Requirements *before* they initiate Criminal Justice major course work.

Major Requirements

It is the student's responsibility to meet with a Criminal Justice Academic Advisor to officially declare their Major and to identify all major and degree requirements.

Code	Title	Credits
Required Core Courses		
CRJ 1010	Introduction to Criminal Justice	3
CRJ 3200	Police and Society	4
CRJ 3350	Corrections	4
CRJ 3550	Research Methods in Criminal Justice	4
CRJ 3800	Criminological Theories	4
CRJ 4740	Constitutional Criminal Procedure	4
Select one of the following process courses:		
CRJ 3400	Juvenile Delinquency and Justice	4
or CRJ 3700	The Judicial Process	
Approved Electives		
Select a minimum of twelve credits of the following:		12
CRJ/SOC 2204	Outsiders and Deviants	
CRJ 2550	Race, Crime and Justice	
CRJ/GSW 2650	Gender and Crime	
CRJ/GSW 2750	Diversity Issues in Criminal Justice	
CRJ/PH 3050	Mental Health and Crime	
CRJ 3110	Domestic Violence and Criminal Justice	
CRJ/PS 3120	Politics of the Criminal Justice Process	
CRJ 3260	Investigation	
CRJ 3400	Juvenile Delinquency and Justice	
CRJ 3700	The Judicial Process	
CRJ 3710	Legal Writing for Criminal Justice	
CRJ 3900	Comparative Criminal Justice	
CRJ 4050	Crime and Public Health	
CRJ 4220	Criminalistics	
CRJ 4310	Correctional Counseling Methods	
CRJ 4970	Internship in Criminal Justice	
CRJ 4990	Directed Study	
CRJ 4998	Honors Thesis in Criminal Justice	
CRJ 5500	Child Abuse and Neglect	
CRJ/SOC 5810	Law in Human Society	
CRJ 5994/ PCS 5000/ PSY 5710/ PS 5890	Dispute Resolution	
CRJ 5995	Special Topics in Criminal Justice	
CRJ 5996	Special Topics in Criminology	
CRJ 5997	Special Topics in Law and the Legal System	
Total Credits		39

Residency Requirements

A minimum of sixteen of the twenty-seven credits in Criminal Justice Core courses and four of the twelve credits in Criminal Justice Elective courses must be earned at Wayne State University.

Transfer Credit

Students should visit the transfer credit website (http://www.transfercredit.wayne.edu) and consult with the Criminal Justice Academic Advisor to determine the applicability of transfer credits toward the major.

Criminal Justice Honors (B.S. Program)

The Honors Program in Criminal Justice is open to students of superior academic ability who are majoring in criminal justice. To be recommended for an honors degree from this department, a student must maintain a cumulative grade point average of at least 3.3. He/she must accumulate at least twelve credits in honors-designated course work from various departments in the College of Liberal Arts and Sciences, including honors requirements within Criminal Justice and at least one 4000-level Honors College seminar. The Honors student must complete an original Honors Thesis during the senior year. For information about the requirements of the department's honors curriculum, contact the Criminal Justice Honors Director or Academic Services Officer (313-577-0772).

Pre-Law Advising and Curriculum

Students considering legal careers and wishing to major or minor in criminal justice should notify their Criminal Justice Academic Advisor at the beginning of their junior year. For non-majors wishing to take

a pre-law sequence of courses in criminal justice, the following are recommended:

Code	Title	Credits
CRJ 1010	Introduction to Criminal Justice	3
CRJ 3260	Investigation	3
CRJ 3700	The Judicial Process	4
CRJ 3710	Legal Writing for Criminal Justice	4
CRJ 4740	Constitutional Criminal Procedure	4
CRJ 5997	Special Topics in Law and the Legal System	3
Total Credits		21

Graduate Study

Graduating seniors who are planning graduate study in criminal justice may qualify to complete approved course work toward the Master of Science in Criminal Justice degree under the AGRADE or the Senior Rule provision.

Senior Rule Study

Minimum requirements for Senior Rule study include: a 3.0 grade point average for the junior and senior years of study, and at least one (but not more than ten) credits remaining to be completed for the undergraduate degree. Additional limitations and requirements apply for this status and for continuing graduate study in criminal justice. Interested seniors should consult with their Academic Advisor for further information.

'AGRADE' Program (Accelerated Graduate Enrollment)

The College of Liberal Arts and Sciences Accelerated Graduate Enrollment (AGRADE) Program allows qualified seniors to apply a maximum of fifteen credits toward both the Bachelor of Science and Master of Science in Criminal Justice degrees. Qualifications for AGRADE include Senior status and a minimum major g.p.a. of 3.6. For additional eligibility information, interested students should contact the Criminal Justice Academic Services Officer (313-577-0772).

Criminal Justice Minor

The Department offers a minor in Criminal Justice for which the notation of a minor appears on the student's transcript. The required Criminal Justice courses are:

Code	Title	Credits
CRJ 1010	Introduction to Criminal Justice	3
CRJ 3200	Police and Society	4
CRJ 3350	Corrections	4
CRJ 3700	The Judicial Process	4
CRJ 4740	Constitutional Criminal Procedure	4
Criminal Justice Elective		3-4
Total Credits		22-23

Students wishing to minor in criminal justice are encouraged to visit the Departmental Offices for information and advising. A minor must be declared prior to filing for graduation.

Forensic Investigation and Policing Minor

The Forensic Investigation and Policing minor is 23- 24 credits of coursework, of which a maximum of 6 credits can be transferred from other institutions for the CRJ courses only.

Code	Title	Credits
CRJ 1010	Introduction to Criminal Justice	3
CRJ 3200	Police and Society	4
CRJ 3260	Investigation	3
CRJ 4220	Criminalistics	4
MS 4011	Interview and Interrogation Techniques	3
MS 5011	Forensic Investigation of Firearms, Ballistics, and Explosives	4
Students must choose at least one of the following courses: *		2-3
MS 4010	Forensic Laboratory Standards	
MS 5010	Forensic Analysis	
Total Credits		23-24

* MS 4010 and MS 5010 do not need to be taken in sequence; therefore, students can choose to take either one of these courses.

Digital Humanities Minor

The Digital Humanities minor is open to any student interested in the intersection of digital technology and humanities/social science research. The minor requires a minimum of fifteen credits, distributed as follows:

Code	Title	Credits
Required Course		3
ENG/HIS 2435	Introduction to Digital Humanities	
Skills Courses (select two of the following)		6
ISM 5570	Data Mining and Analytics	
ISM 5705	Inbound Information Technology	
ISM 5670	Special Topics in Information Systems *	
ISM 5994	Software Tools for Business Applications	
MKT 5800	Digital Marketing and Analytics	
CSC 1050	Introduction to C and Unix	
CSC 1100	Problem Solving and Programming	
CSC 2000	Introduction to C++ Programming Language	
CSC 3020	Java Programming	
ADA 2210	Introduction to Digital Practices	
ADA 3220	Introduction to Interactivity in Graphic Arts	
ADA 4240	Advanced Interactivity: Experimental Video Games	
AGD 2230	Introduction to Typography: Skills and Concepts	
AGD 2240	Introduction to Graphic Design: Skills and Concepts	
AGD 3260	Introduction to Interactivity in Graphic Arts	
COM 1610	Fundamentals of New Media Production	
COM 2260	Digital Writing and Research Methods	
COM 2290	Fundamentals of New Media Communication	
COM 2310	Introduction to Web Design	
COM 5390	Digital Animation	
GPH 3600	Introduction to Geographic Information Systems	
GPH 4600	Advanced Geographic Information Systems	
Elective courses (select two of the following)		6
ANT 5565	Urban Archaeology	
COM 5280	New Media Practices	
COM 5010	History of Communication Technologies	
COM 5500	Journalism and New Media	
COM 6270	New Media Theory	
ENG 2430	Digital Narrative	

ENG 5020	Topics in Media and Modern Culture	
ENG 5690	History and Future of the Book	
HIS 3995	Special Topics in History *	
HIS/ANT 4993	History Communication	
Total Credits		15

* Should be chosen in consultation with an advisor.

Economics

Office: 2074 Faculty/Administration Building; 313-577-3345
Chairperson: Kevin Cotter
Administrative Assistant II: Geraldine White
Academic Advisor: Alicia M. Ortez
http://www.clas.wayne.edu/Economics/

Economics is the study of how individuals and societies allocate limited resources to try to satisfy unlimited wants; it is therefore a study of choices. Households and business firms must decide what and how much to consume or produce and how much labor, land and capital to supply. Governments make decisions affecting inflation and unemployment, taxation and expenditures, the monetary system and international trade. Together these public and private choices determine the nation's prosperity and shape the distribution of its wealth. Since every social relationship has economic aspects, an understanding of economic principles and systems is an integral part of a liberal education.

Economics majors have a wide choice of careers. Many supplement their major with cognate courses to prepare for careers in business, journalism, health care administration or public service. Others find it excellent preparation for law school. Ph.D. graduates in economics are in demand at universities, corporations, financial institutions and government agencies. M.A. graduates may teach at junior colleges but more typically go into business or public service.

- Economics (B.A.) (p. 253)
- Mathematical Economics (B.A.) (p. 254)
- Economics Minor (p. 255)

Economics (B.A.)

Economics is the study of how individuals and societies allocate limited resources to try to satisfy unlimited wants; it is therefore a study of choices. Households and business firms must decide what and how much to consume or produce and how much labor, land and capital to supply. Governments make decisions affecting inflation and unemployment, taxation and expenditures, the monetary system and international trade. Together these public and private choices determine the nation's prosperity and shape the distribution of its wealth. Since every social relationship has economic aspects, an understanding of economic principles and systems is an integral part of a liberal education. Economics majors have a wide choice of careers. Many supplement their major with cognate courses to prepare for careers in business, journalism, health care administration or public service. Others find it excellent preparation for law school.

Admission Requirements

Admission requirements for this program are satisfied by the general requirements for undergraduate admission (p. 22) to the University. The Economics Department assumes that students taking economics courses have had at least two years of high school-level algebra and one year of geometry.

Candidates must complete 120 credits in course work including satisfaction of the University General Education Requirements (p. 34) and the College of Liberal Arts and Sciences Group Requirements (p. 222), as well as the departmental major requirements cited below. All course work must be completed in accordance with the regulations of the University (p. 11) and the College (p. 221) governing undergraduate scholarship and degrees.

Major Requirements

Students considering an economics major should take ECO 2010 and ECO 2020 (Principles of Microeconomics and Macroeconomics) as soon as possible. They should also pass MAT 1500 or MAT 1800 prior to the junior year or demonstrate eligibility for MAT 2010 in the Mathematics Placement Examination.

A major consists of at least thirty-two credits in economics courses including:

Code	Title	Credits
ECO 2010	Principles of Microeconomics	4
ECO 2020	Principles of Macroeconomics	4
ECO 5000	Intermediate Microeconomics	4
ECO 5050	Intermediate Macroeconomics	4
ECO 5100	Introductory Statistics and Econometrics	4
ECO 5993	Writing Intensive Course in Economics	0
Select at least three courses in two or more economics field C to H [1]		12
Total Credits		32

[1] Economics courses are listed by field in the department's undergraduate course list (p.).

The Department recommends that majors complete all of these courses by the end of their junior year. At least sixteen credits in economics must be earned at Wayne State University.

Each student should choose the economics electives best suited to his/her intellectual and professional aims.

To satisfy the General Education Major Competency Requirement, Economics majors must have a cumulative grade point average of 2.0 in their economics courses.

Minimal Grade Requirements

The following courses must be passed with a grade of C or better in order to be applicable as economics major credit:

Code	Title	Credits
MAT 1500	College Algebra for the Social and Management Sciences	3
MAT 1800	Elementary Functions	4
ECO 2010	Principles of Microeconomics	4
ECO 2020	Principles of Macroeconomics	4
ECO 5000	Intermediate Microeconomics	4
ECO 5050	Intermediate Macroeconomics	4
ECO 5100	Introductory Statistics and Econometrics	4

A grade of C-minus or better must be achieved for the three field course electives.

Writing Proficiency/Writing Intensive Requirement

To enable the Department to evaluate their writing proficiency, economics majors must register for ECO 5993, the zero-credit WI course. All economics majors must satisfy this requirement, even if they are not subject to the University General Education Requirements.

Combined Curriculum for Teaching Certificate

Economics majors wishing to enter secondary teaching should see the Secondary Education Curriculum guide for the procedures for combining a degree in Liberal Arts with a teaching certificate. Students must complete the Economics major requirements as part of their program of study.

Economics Honors (B.A. Program)

Economics majors with strong academic records and an interest in research are urged to apply to the Departmental undergraduate advisor for admission to the Honors Program. Applicants should have overall grade point averages of 3.3 or above.

In addition to the Bachelor of Arts requirements cited above, honors majors must take ECO 4997 (Senior Honors Research) during their last semester before graduation and therefore completing thirty-six credits in economics courses. In this seminar they will conduct research under the close supervision of an Economics faculty member. The results of this research are written as an honors thesis, the length of which depends on the nature of the research project.

Honors majors also must elect at least one 4200-level seminar offered by the Honors College. Finally, the student must accumulate at least fifteen credits in honors-designated course work, including ECO 4997 and the Honors College Seminar. These honors credits need not all be in the Economics Department. Those who successfully complete these requirements and finish their undergraduate course work with an overall grade point average of 3.3 or above will graduate with the degree designation 'With Honors in Economics'.

'AGRADE' Program (Accelerated Graduate Enrollment)

The Economics Department actively participates in the 'AGRADE' Program, which enables qualified seniors in the College of Liberal Arts and Sciences to enroll simultaneously in the undergraduate and graduate programs of the College, and to apply a maximum of sixteen credits toward both an undergraduate and graduate degree in economics. Students interested in 'AGRADE' should contact the Director of Undergraduate Studies: 313-577-3345.

Mathematical Economics (B.A.)

The purpose of the program is to provide rigorous training in mathematics and economics for students whose career goals require a high level of technical proficiency in these subjects. The program will be valuable for students who intend to pursue graduate work in economics, finance or applied mathematics, or pursue a career in economic analysis, finance, underwriting, actuarial sciences, banking, international trade, applied statistics, or operations research.

Admission Requirements

Admission requirements for this program are satisfied by the general requirements for undergraduate admission (p. 22) to the University.

Candidates must complete 120 credits in course work including satisfaction of the University General Education Requirements (p. 34) and the College of Liberal Arts and Sciences Group Requirements (p. 222), as well as the departmental major requirements cited below. All course work must be completed in accordance with the regulations of the University (p. 11) and the College (p. 221) governing undergraduate scholarship and degrees. Students must receive a grade of 'C-' or better in all Mathematics and Economics courses. An overall grade point average of 2.0 ('C') is required for graduation.

Major Requirements

Students considering a mathematical economics major should take ECO 2010 and ECO 2020 (Principles of Microeconomics and Macroeconomics) and MAT 2010 (Calculus 1) as soon as possible.

To satisfy the General Education Major Competency Requirement, Mathematical Economics majors must have a cumulative grade point average of 2.0 in their major courses.

A major consists of at least forty-six credits total - at least twenty-two credits in mathematics courses and twenty-four credits in economics courses. At least fifteen credits (eight credits of economics and seven credits of math) must be earned at Wayne State University.

Code	Title	Credits
Economics Requirements		
ECO 2010	Principles of Microeconomics	4
ECO 2020	Principles of Macroeconomics	4
ECO 5000	Intermediate Microeconomics	4
ECO 5050	Intermediate Macroeconomics	4
ECO 6000	Price and Allocation Theory	4
Select one of the following in conjunction with ECO 5993:		4
ECO 5020	Fundamentals of Economic Analysis I	
ECO 5030	Microeconomic Theory	
ECO 5100	Introductory Statistics and Econometrics	
ECO 5250	Economic Analysis of Law	
ECO 5300	International Trade	
ECO 5500	Public Finance	
ECO 5700	Money and Banking	
ECO 6100	Introduction to Econometrics	
ECO 5993	Writing Intensive Course in Economics (Can be taken with either the ECO or Math elective)	0
Mathematics Requirements		
MAT 2010	Calculus I	4
MAT 2020	Calculus II	4
MAT 2030	Calculus III	4
MAT 2250	Elementary Linear Algebra	3
MAT 5700	Introduction to Probability Theory	4
One MAT or STA course at or above 5030. Recommended courses are: [2]		3
STA 5030	Statistical Computing and Data Analysis	
MAT 5100	Numerical Methods I	
MAT 5210	Advanced Calculus	
MAT 5220	Partial Differential Equations	
MAT 5230	Complex Variables and Applications	
MAT 5280	Methods of Differential Equations	
MAT 5710	Introduction to Stochastic Processes	
MAT 5770	Mathematical Models in Operations Research	
MAT 5870	Methods of Optimization	
STA 5800	Introduction to Mathematical Statistics	
MAT 5993	Writing Intensive Course in Mathematics [3]	0
Total Credits		46

[1] This is a paper completed in conjunction with a 5000-level economics or math course elective. You must register for this during the same semester that the 5000-level economics or math elective course is taken.

[2] Excluding MAT 5120, MAT 5130, MAT 5180, MAT 5190, MAT 5992, MAT 6130, MAT 6150, MAT 6170, MAT 6180, MAT 6200 and MAT 6210.

[3] This is a paper completed in conjunction with a 5000-level mathematics course elective. You must register for this during the same semester that the 5000-level mathematics elective course is taken. This requirement may also be satisfied by completion of ECO 5993.

Minimal Grade Requirements

Students must receive a grade of 'C- ' or better in all Mathematics and Economics courses. An overall grade point average of 2.0 ('C') is required for graduation.

Writing Proficiency/Writing Intensive Requirement

To enable the Department to evaluate their writing proficiency, mathematical economics majors must register for ECO 5993, the zero-credit WI course. This is a paper completed in conjunction with a 5000-level economics or math course elective. They must register for this during the same semester that the 5000-level economics or math elective course is taken. All mathematical economics majors must satisfy this requirement, even if they are not subject to the University General Education Requirements.

Student's Responsibility

It is each student's responsibility to learn the requirements, policies, and procedures governing the program they are following and to act accordingly. Students should consult both Mathematical Economics program advisors regularly in order to verify that Mathematical Economics requirements are being met in a timely fashion. Although the advisor will provide assistance, the responsibility for fulfilling degree requirements remains with the student.

Economics Minor

A minor in economics requires the completion of the following course work. Twelve of the twenty credits must be taken at Wayne State University. Students must maintain a cumulative g.p.a. of 2.0 or better in the twenty credits of Economics courses.

Code	Title	Credits
Select one of the following:		3-4
MAT 1500	College Algebra for the Social and Management Sciences [1]	
MAT 1800	Elementary Functions [1]	
ECO 2010	Principles of Microeconomics [1]	4
ECO 2020	Principles of Macroeconomics [1]	4
Three ECO courses at the 5000-level or above [2]		12
Total Credits		23-24

[1] Must be passed with a grade of C or better.

[2] ECO 5000, 5050, and 5100 must be passed with a grade of C or better (if included in the minor).

Employment and Labor Relations

Office: 255 Walter P. Reuther Library; 313-577-5382 or 313-577-0175
Director: Marick Masters
Academic Services Officer: Linda Johnson

http://clas.wayne.edu/labor/Bachelor-of-Employment-and-Labor-Relations

The Employment and Labor Relations major provides students with the opportunity to develop the critical skills necessary to analyze employment and workplace issues. An interdepartmental program, employment and labor relations examines the social, political and economic dimensions of these issues in the context of a broad liberal arts education. Students become familiar with employment and labor law, human resource management, compensation and benefits, and techniques associated with the resolution of conflict in the workplace. Students prepare for careers in business, government, nonprofits (including the healthcare sector), and labor unions. The program is also good preparation for pursuing a professional degree in business or law.

- Employment and Labor Relations (B.A.) (p. 255)

Employment and Labor Relations (B.A.)

The Employment and Labor Relations major provides students with the opportunity to develop the critical skills necessary to analyze employment and workplace issues. An interdepartmental program, employment and labor relations examines the social, political and economic dimensions of these issues in the context of a broad liberal arts education. Students become familiar with employment and labor law, human resource management, compensation and benefits, and techniques associated with the resolution of conflict in the workplace. Students prepare for careers in business, government, nonprofits (including the healthcare sector), and labor unions. The program is also good preparation for pursuing a professional degree in business or law.

Admission Requirements

Admission requirements for this program are satisfied by the general requirements for undergraduate admission (p. 22) to the University.

Candidates must complete 120 credits in course work including satisfaction of the University General Education Requirements (p. 34) and the College of Liberal Arts and Sciences Group Requirements (p. 222), as well as the departmental major requirements cited below. All course work must be completed in accordance with the regulations of the University (p. 11) and the College (p. 221) governing undergraduate scholarship and degrees.

Code	Title	Credits
Required Core Courses		
ECO 5480	Economics of Work	3
HIS 5290	American Labor History	4
ELR 2500	Introduction to Labor Studies	4
ELR 4700	Senior Seminar	3
PSY 2100	Psychology and the Workplace	3
PS 6070	Labor and American Politics	3
Applied and Specialized Curriculum		
Select four of the following:		12
ANT 3150	Anthropology of Business	
ECO 5400	Labor Economics	
HIS 3360	Black Workers in American History	
ELR 4500	Applied Labor Studies (twelve credits may be elected as: Labor Relations: 3 cr.; Collective Bargaining: 3 cr.; Labor Law: 3 cr.; and Labor, Politics and Public Policy: 3 cr.)	
MGT 5700	Human Resource Management	

MGT 5740	Collective Bargaining	
PSY 5710	Dispute Resolution	
PSY 6550	Training and Employee Development	
PS 3020	Political Parties and Elections	
PS 3030	Political Interest Groups	
PS 3040	The Legislative Process	
SOC 2203	Social Psychology	
SOC 2300	Social Inequality	
SOC 5700	Seminar in Social Inequality	
Total Credits		32

Students are referred to the program director for information concerning courses, directed study, internships, career information, and graduate study.

English

Office: Room 9408, 5057 Woodward; 313-577-2450
Interim Chairperson: Caroline Maun
Associate Chairperson and Director of Undergraduate Studies: Simone Chess
Director of Composition: Jeff Pruchnic
Interim Director of Graduate Studies: Richard Marback
Academic Services Officer: Anglesia Brown
Undergraduate advisor: Royanne R. Smith
http://clas.wayne.edu/english/

Building upon the cultural diversity and urban experience that distinguishes Wayne State University, the English Department's mission is to provide its students with the intellectual knowledge and practical tools to thrive in an increasingly diverse and interconnected world, by teaching them to understand the power and influence of literature and other forms of textual and media production, circulation, and interpretation; and by imparting skill and fluency in close reading, critical thinking, rhetorical analysis, and writing in multiple genres.The English major curriculum is designed to introduce students to these skills and to provide a challenging and flexible liberal arts education as well as a pre-professional program for students interested in careers in education, law, business, and other professions.

or details on Mathematics course placement, please see the English Placement Information (p. 256) section of this bulletin.

- English (B.A.) (p. 256)
- English Minor (p. 258)
- Film Studies (B.A.) (http://bulletins.wayne.edu/undergraduate/college-liberal-arts-sciences/english/film-studies-ba)
- Film and Media Studies Minor (p. 258)
- Creative Writing Minor (p. 258)
- Professional Writing Minor (p. 258)

English Placement Information

The American College Test (ACT) score in English or the Scholastic Aptitude Test (SAT) score in Writing is used to determine placement into the appropriate basic composition course, eitherENG 1010 or ENG 1020.

ACT English Score

- 21 or higher = placement into ENG 1020
- 20 or below = placement into ENG 1010

SAT Evidence-Based Reading and Writing Score (new)

- 520 or higher = placement into ENG 1020
- 510 or below = placement into ENG 1010

SAT Writing Score (old)

- 480 or higher = placement into ENG 1020
- 470 or below = placement into ENG 1010

The ACT or SAT score may not be from an exam taken more than three years prior to enrollment in the course. If a student has more than one valid ACT and/or SAT test score, the score that produces the highest placement will be used. Any student placing into ENG 1010 via the ACT or SAT may take the English Qualifying Exam if he/she wishes to attempt placement into ENG 1020. Students who have not taken the ACT or SAT, or have ACT or SAT scores more than three years old, must take the English Qualifying Exam to determine course placement. Those students who have received transfer credit for WSU ENG 1020, or credit for WSU ENG 1020 through the Advanced Placement or College-Level Examination Programs, do not need to take the exam.

Prerequisite statements in the bulletin include WSU conversions for ACT and SAT scores. A score of 1 leads to placement in ENG 1010, and a score of 2 leads to placement in ENG 1020.

For more information, please refer to the Office of Testing, Evaluation and Research Services (http://testing.wayne.edu/register/english-qualifying-exam.php).

English (B.A.)

Building upon the cultural diversity and urban experience that distinguishes Wayne State University, the English Department's mission is to provide its students with the intellectual knowledge and practical tools to thrive in an increasingly diverse and interconnected world, by teaching them to understand the power and influence of literature and other forms of textual and media production, circulation, and interpretation; and by imparting skill and fluency in close reading, critical thinking, rhetorical analysis, and writing in multiple genres.The English major curriculum is designed to introduce students to these skills and to provide a challenging and flexible liberal arts education as well as a pre-professional program for students interested in careers in education, law, business, and other professions.

Admission Requirements

Admission requirements for this program are satisfied by the general requirements for undergraduate admission (p. 22) to the University.

Candidates must complete 120 credits in course work including satisfaction of the University General Education Requirements (p. 34) and the College of Liberal Arts and Sciences Group Requirements (p. 222), as well as the departmental major requirements cited below. All course work must be completed in accordance with the regulations of the University (p. 11) and the College (p. 221) governing undergraduate scholarship and degrees.

Major Requirements

Students must complete twelve English courses beyond the University General Education Competency Requirement and Liberal Arts and Sciences Group Requirements. Ten of these courses must be beyond the 2000-level. Specific requirements are as follows:

Code	Title	Credits
Survey courses		
Select one from each category (early and late)		6
Early (choose one)		
ENG 3110	English Literature to 1700	
ENG 3120	English Literature after 1700	
ENG 3130	American Literature to 1865	
ENG 3180	Rhetoric to 1800	

Late (choose one)		
ENG 3140	American Literature after 1865	
ENG 3190	Rhetoric after 1800	
ENG 3470	Survey of African-American Literature	
Theories and Methods		
Select two of the following:		6
ENG 3085	Introduction to Rhetoric and Writing	
ENG 3090	Introduction to Cultural Studies	
ENG 3100	Introduction to Literary Studies	
ENG 3800	Introduction to Creative Writing	
Communities and Cultures		
Select one upper-division course with an emphasis on cultural diversity:		3
ENG 5030	Topics in Women's Studies	
ENG 5035	Topics in Gender and Sexuality Studies	
ENG 5065	Identity and Difference in Media	
ENG 5075	Topics in New Media	
ENG 5080	Topics in Global and Transnational Studies	
ENG 5480	Topics in African American Literature	
ENG 5500	Topics in English and American Literature	
ENG 5795	Topics in Rhetoric and Writing	
ENG 5860	Topics in Creative Writing	
Senior Seminar		3
ENG 5992	Senior Seminar	
Additional Requirements		18
Select six additional courses in English [1]		
Total Credits		36

1 Four of these courses must be at the 4000 or 5000 level. No English course below the 2000-level may count toward the English B.A. program.

English Honors (B.A. Program)

To graduate with honors in English an undergraduate student must have a minimum 3.5 g.p.a. in English courses and a minimum cumulative g.p.a of 3.3. Additional requirements include a minimum of thirty-six credits in English courses beyond the Liberal Arts and Sciences Group requirements and General Education requirements, three courses of which must be in Honors. Students must also complete at least one 4200-level interdepartmental Honors Seminar, HON 4200-HON 4280, to total four courses in Honors.

Required English Courses

Code	Title	Credits
Survey courses		
Select one from each category (early and late):		6
Early		
ENG 3110	English Literature to 1700	
ENG 3130	American Literature to 1865	
ENG 3180	Rhetoric to 1800	
Late		
ENG 3120	English Literature after 1700	
ENG 3140	American Literature after 1865	
ENG 3190	Rhetoric after 1800	
ENG 3470	Survey of African-American Literature	
Theories and Methods		
Select two of the following:		6
ENG 3085	Introduction to Rhetoric and Writing	
ENG 3090	Introduction to Cultural Studies	
ENG 3100	Introduction to Literary Studies	
ENG 3800	Introduction to Creative Writing	
Communities and Cultures		
Select one upper-division course with an emphasis in cultural diversity:		3-4
ENG 5030	Topics in Women's Studies	
ENG 5035	Topics in Gender and Sexuality Studies	
ENG 5065	Identity and Difference in Media	
ENG 5075	Topics in New Media	
ENG 5080	Topics in Global and Transnational Studies	
ENG 5480	Topics in African American Literature	
ENG 5500	Topics in English and American Literature	
ENG 5795	Topics in Rhetoric and Writing	
ENG 5860	Topics in Creative Writing	
Other Requirements		
Select at least six additional courses in English [1]		18
Honors Seminar		
ENG 4991	Honors Seminar (Max. 6)	3
Honors-Option		
One 5000-level course in the English Honors curriculum must be taken with an Honors Option. This Honors Option will be applied to a 5000-level course either in the Communities and Cultures Requirement or in the Elective Requirements in the major. [2]		1-3
Total Credits		37-40

1 Four of these courses must be at the 4000 or 5000 level and include ENG 4992 (https://bulletins.wayne.edu/search/?P=ENG%204992) (Honors Project, Cr. 3 (Max. 6)). The Honors Project should be twenty to thirty pages long. Students pursuing both Department and University Honors may use the Departmental project (ENG 4992 (https://bulletins.wayne.edu/search/?P=ENG%204992)) to fulfill the University Honors thesis requirement. No English course below the 2000-level may count toward the English B.A. program.

2 Candidates for Honors in English will arrange for an Honors-option by contracting with any professor teaching a 5000-level course to do honors-level work in that course, beyond the standard requirements set forth in the syllabus. Supplementary work required for the Honors-option might consist of an extra paper, a significantly longer term paper, evidence of additional readings (for example, through journal entries), an oral or written report, or a special examination.

Students who wish to become candidates for degrees with honors in English are encouraged to consult early with the Undergraduate Advisor of the English Department (313-577-7701).

Combined Curriculum Requirements

Combined Curriculum for Secondary Teaching: An English major who wishes to prepare for a career in secondary school teaching can earn a bachelor's degree in English with a secondary teaching certificate. In close consultation with Department of English and College of Education advisors, the student will develop a plan of work that satisfies the requirements of the English B.A. program and includes the subject area and professional courses required for teacher certification. For more information see Combined Curriculum for Secondary Teaching (p. 223).

Note: Students seeking Elementary Education Certification with a Language Arts Group Major should consult with an advisor in the School of Education.

'AGRADE' Program (Accelerated Graduate Enrollment)

The English Department invites academically superior majors to apply for admission to the 'AGRADE' Program, which allows qualified seniors to enroll simultaneously in the undergraduate and graduate programs of the Department. Applications will be accepted no earlier than the semester in which ninety credits are completed. Applicants must have an overall grade point average of 3.5 and not less than a 3.6 g.p.a in the major courses already completed. A Plan of Work is required, and credit restrictions apply. Please see the departmental Undergraduate Advisor for more detail.

Creative Writing Minor

The Creative Writing Minor is designed to allow focus and credentialing for the many students across the university who enjoy reading and writing poetry, fiction, and other creative forms. The minor requires a minimum of 18 credits. English majors can only apply two major courses to this minor.

Requirements

Code	Title	Credits
ENG 3800	Introduction to Creative Writing	3
Select three of the following at least two of which should be at the 5000-level or higher		9
ENG 2800	Techniques of Imaginative Writing	
ENG 3810	Poetry Writing	
ENG 3820	Fiction Writing	
ENG 5695	Topics in Writing and Publishing	
ENG 5860	Topics in Creative Writing	
ENG 5870	Poetry Writing Workshop	
ENG 5880	Fiction Writing Workshop	
ENG 5885	Topics in Creative Non-Fiction Writing	
ENG 6800	Advanced Creative Writing	
Select two elective courses from any English course at the 2000-level or higher [1]		6
Total Credits		18

[1] Students may substitute one of the following assuming they have satisfied any prerequisite coursework and/or have permission from the course's home department: COM 4100, COM 5270, or THR 5721.

English Minor

The minor in English permits study in literature, film and media, creative writing, and writing studies. It requires six English courses, excluding Basic Composition (BC) and Intermediate Composition (IC) requirements, for a minimum of at least eighteen credits:

Code	Title	Credits
Select any two of the following courses:		6
ENG 3085	Introduction to Rhetoric and Writing	
ENG 3090	Introduction to Cultural Studies	
ENG 3100	Introduction to Literary Studies	
ENG 3800	Introduction to Creative Writing	
ENG 3110	English Literature to 1700	
ENG 3120	English Literature after 1700	
ENG 3130	American Literature to 1865	
ENG 3140	American Literature after 1865	
ENG 3180	Rhetoric to 1800	
ENG 3190	Rhetoric after 1800	
ENG 3470	Survey of African-American Literature	
Choose four more courses from English, two of which must be at the 4000-level or above.		12
Total Credits		18

Film and Media Studies Minor

The English department offers a minor in Film and Media Studies for students interested in the history and criticism of film and media. Courses are designed to give students knowledge and critical skills in film and media analysis, key concepts in film and media theory, emerging trends in new media scholarship, and an understanding of cultural and historical factors in film and media production and reception.The minor requires five courses. English majors can only apply two of their major courses to this minor.

Code	Title	Credits
ENG 2450/ COM 2010	Introduction to Film	4
Select four courses from the following, two of which must be at the 4000-level or above.		12-16
ENG 2430	Digital Narrative	
ENG 2440	Introduction to Visual Culture	
ENG 2445	Comics and Graphic Novels	
ENG 2470	Television Culture	
ENG 3090	Introduction to Cultural Studies	
ENG 5020	Topics in Media and Modern Culture	
ENG 5040	Film Criticism and Theory	
ENG 5050	Historical Topics in Film and Media	
ENG 5060	Styles and Genres in Film	
ENG 5065	Identity and Difference in Media	
ENG 5070	Topics in Film and Media	
ENG 5075	Topics in New Media	
ENG 5095	Topics in Visual Culture	
Allowed from other disciplines:		
AFS 3200/ COM 3230	The African-American Film Experience	
AFS/COM 4240	African Americans in Television	
CHI 3010	Contemporary Chinese Pop Culture	
COM 5270	Screenwriting	
FRE 2100	French through Film I	
FRE 2110	French through Film II	
GER 5350	German Film	
ITA 2020	Italian through Film	
ITA 5150	Italian Cinema	
NE 2060	Hebrew/Israeli Film: Trends and Themes in Israeli Cinema	
SLA 3710	Russian and East European Film	
SLA/POL 3750	Polish and Yugoslavian Cinema	

Professional Writing Minor

The Professional Writing minor is intended to provide students with training in the essentials of professional writing practices and with experience in composing in common genres of professional and technical

communication. The minor requires the completion of a minimum of 18 credits.

Requirements

Code	Title	Credits
Select one of the following introductory courses:		3
ENG 3050	Technical Communication I: Reports	
ENG 3060	Technical Communication II: Presentations	
Select four courses from the following, two of which must be at the 5000-level:		12
ENG 3200	Grant Writing	
ENG 3250	Technical and Professional Editing	
ENG 3050	Technical Communication I: Reports	
ENG 3060	Technical Communication II: Presentations	
ENG 5010	Advanced Expository Writing	
ENG 5695	Topics in Writing and Publishing	
ENG 5795	Topics in Rhetoric and Writing	
ENG 5830	Introduction to Technical and Professional Writing Practices	
ENG 5840	Theoretical Approaches to Technical and Professional Writing	
Required internship:		3
ENG 5820	Internship Practicum	
Total Credits		18

Environmental Science

Office: 0224 Old Main
Director: Daniel Kashian
Academic Advisor: Cody Bailey
http://clas.wayne.edu/esp/

Environmental Science investigates the many interconnected systems and processes that formed our world, continuously change it, and, ultimately, sustain life on it. The Environmental Science Program at Wayne State offers an interdisciplinary approach combining a strong foundation from both geological and biological perspectives, and a broad choice of electives. This program focuses on the urban environment and urban impacts on the natural environment. It will prepare students for graduate study, or for careers in various areas of environmental science including environmental impact assessment, air and water quality monitoring, regulatory compliance, and environmental remediation.

- Environmental Science (B.S.) (p. 259)
- Environmental Science Minor (p. 260)

Environmental Science (B.S.)

Environmental Science investigates the many interconnected systems and processes that formed our world, continuously change it, and, ultimately, sustain life on it. The Environmental Science Program at Wayne State offers an interdisciplinary approach combining a strong foundation from both geological and biological perspectives, and a broad choice of electives. This program focuses on the urban environment and urban impacts on the natural environment. It will prepare students for graduate study, or for careers in various areas of environmental science including environmental impact assessment, air and water quality monitoring, regulatory compliance, and environmental remediation.

Admission Requirements

Admission requirements for this program are satisfied by the general requirements for undergraduate admission (p. 22) to the University.

Candidates must complete 120 credits in course work including satisfaction of the University General Education Requirements (p. 34) and the College of Liberal Arts and Sciences Group Requirements (p. 222), as well as the departmental major requirements cited below. All course work must be completed in accordance with the regulations of the University (p. 11) and the College (p. 221) governing undergraduate scholarship and degrees. Students must receive a grade of 'C-minus' or better in all Major and Cognate required courses. An overall grade point average of 2.0 ('C') in all coursework is required for graduation.

Major Requirements

B.S. candidates in Environmental Science must complete the following:

Code	Title	Credits
GEL 1010	Geology: The Science of the Earth	3
GEL 1011	Geology: The Science of the Earth Laboratory	1
GEL 2130	Mineralogy	4
GEL 3100	Air and Water in Environmental Systems	3
GEL 5150	Soils and Soil Pollution	4
GEL 5510	Environmental Fate and Transport of Pollutants	4
BIO 1500	Basic Life Diversity	4
BIO 1510	Basic Life Mechanisms	4
BIO 4130	General Ecology	4
BIO 5100	Aquatic Ecology	4
or BIO 5440	Terrestrial Ecology	
Total Credits		35

Elective Courses

Students must complete a minimum of 9 approved elective credits for the major, usually 3 classes, one of which must be from the Department of Biology or the Department of Geology.

Code	Title	Credits
Biology Elective Options		
BIO 2200	Introductory Microbiology	5
BIO 3500	Ecology and the Environment	3
BIO 4420	Biogeography	3
BIO 5040	Biometry	4
BIO 5100	Aquatic Ecology	4
BIO 5180	Field Investigations in Biological Sciences	12
BIO 5440	Terrestrial Ecology	4
BIO 5490	Population and Community Ecology	3
BIO 5540	Landscape Ecology	3
BIO 6190	Advanced Special Topics	6
Geology Elective Options		
GEL 3160	Petrology	4
GEL 3300	Structural Geology	4
GEL 3400	Principles of Sedimentology and Stratigraphy	4
GEL 3450	Principles of Paleontology	4
GEL 3650	Field Geology	1-10
GEL 4200	Geomorphology	4
GEL 5000	Geological Site Assessment	4
GEL 5120	Environmental Geochemistry	4
GEL 5210	Applied Geophysics	4
GEL 5360	Hydrology of Natural and Urban Environments	4
GEL 5450	Hydrogeology	4
GEL 5600	Special Topics in Geology	4

GEL 5650	Applied Geological Mapping	4
GEL 6400	Nuclear Geology	4
GEL 6500	Earth Resources and the Environment	3
Chemical Engineering Options		
CHE 6610	Risk Assessment	3
Honors Options		
HON 4220	Seminar in Life Science	3
Civil Engineering Options		
CE 3250	Applied Fluid Mechanics	4
CE 4210	Introduction to Environmental Engineering	3
CE 5230	Water Supply and Wastewater Engineering	3
CE 5995	Special Topics in Civil Engineering I	1-3
CE 6190	Groundwater	3
CE 6270	Sustainability Assessment and Management	3
Geography Options		
GPH 3600	Introduction to Geographic Information Systems	4
GPH 4600	Advanced Geographic Information Systems	4

Cognate Requirements

B.S. candidates in Environmental Science must take:

Code	Title	Credits
MAT 1800	Elementary Functions	4
MAT 2010	Calculus I	4
PHY 2130	Physics for the Life Sciences I [1]	4
or PHY 2170	University Physics for Scientists I	
PHY 2131	Physics for the Life Sciences Laboratory [1]	1
or PHY 2171	University Physics Laboratory	
PHY 2140	Physics for the Life Sciences II [1]	4
or PHY 2180	University Physics for Scientists II	
PHY 2141	Physics for the Life Sciences Laboratory [1]	1
or PHY 2181	University Physics Laboratory II	
CHM 1220	General Chemistry I	4
CHM 1230	General Chemistry I Laboratory	1
CHM 1240	Organic Chemistry I	4
CHM 1250	Organic Chemistry I Laboratory	1
Total Credits		28

[1] Students must take PHY 2130/PHY 2131 and PHY 2140/PHY 2141 OR PHY 2170/PHY 2171 and PHY 2180/PHY 2181

Majors should take the Placement Examination of the Department of Mathematics as soon as possible upon entry into the freshman year, although freshmen students may be placed by ACT/SAT scores (valid for 2 years).

Student's Responsibility: It is each student's responsibility to learn the requirements, policies, and procedures governing the program they are following and to act accordingly. Students should consult the Environmental Science Program Advisor regularly in order to verify that Environmental Science requirements are being met in a timely fashion. Although the advisor will provide assistance, the responsibility for fulfilling degree requirements remains with the student.

Environmental Science Honors

To be recommended for an honors degree from this program, a student must maintain a cumulative grade point average of at least 3.30 and complete a minimum of twelve honors course credits including two Geology or Biological Science Honors or Honors Option courses (6 credits) and:

Code	Title	Credits
GEL 4998	Honors Thesis	1-3
or BIO 6990	Honors Directed Study in Biology	
BIO 6999	Terminal Essay: Honors Program	2
One 4200-level Honors Seminar		3
Total Credits		6-8

Environmental Science Minor

The Environmental Science minor requires a minimum of 24 credits for completion. All courses are currently utilized for the Environmental Science major. Environmental Science majors are not eligible for the Environmental Science minor.

Code	Title	Credits
Required Courses		18
EVS 1500	Introduction to Environmental Science	
GEL 1010	Geology: The Science of the Earth	
GEL 1011	Geology: The Science of the Earth Laboratory	
BIO 1500	Basic Life Diversity	
GEL 3100	Air and Water in Environmental Systems	
BIO 3500	Ecology and the Environment	
Elective courses (select two from the following)		6-8
Geology majors must select at least one BIO course; biological science majors must select at least one GEL course.		
BIO 4130	General Ecology	
BIO 4420	Biogeography	
BIO 5040	Biometry	
BIO 5100	Aquatic Ecology	
BIO 5180	Field Investigations in Biological Sciences	
BIO 5490	Population and Community Ecology	
BIO 5540	Landscape Ecology	
BIO 6190	Advanced Special Topics	
GEL 4200	Geomorphology	
GEL 5000	Geological Site Assessment	
GEL 5120	Environmental Geochemistry	
GEL 5150	Soils and Soil Pollution	
GEL 5360	Hydrology of Natural and Urban Environments	
GEL 5510	Environmental Fate and Transport of Pollutants	
GEL 5650	Applied Geological Mapping	
GEL 6500	Earth Resources and the Environment	
Total Credits		24-26

Gender, Sexuality and Women's Studies

Office: 3063 Faculty Administration Building; 313-577-6331
Undergraduate Advisor: Gayle McCreedy
http://www.clas.wayne.edu/GSW/

The Gender, Sexuality, and Women's Studies interdisciplinary undergraduate curriculum is designed to give students the theoretical bases and methodological skills for analyzing gender, sexuality, and women from the perspective of the humanities, historical studies, and the social sciences. Students will gain an understanding of the various contexts and constructs including literary, social, cultural, economic,

psychological, philosophical, and political that shape our perceptions of these issues in different geographical locations and across time.

- Gender, Sexuality and Women's Studies (B.A.) (p. 261)
- Gender, Sexuality and Women's Studies Minor or Cognate Study (p. 262)

Gender, Sexuality and Women's Studies (B.A.)

The Gender, Sexuality, and Women's Studies Program offers a Bachelor of Arts degree and a minor concentration in this discipline. The program's interdisciplinary undergraduate curriculum is designed to give students the theoretical bases and methodological skills for analyzing gender, sexuality, and women from the perspective of the humanities, historical studies, and the social sciences. Students will gain an understanding of the various contexts and constructs including literary, social, cultural, economic, psychological, philosophical, and political that shape our perceptions of these issues in different geographical locations and across time. Through the program, students will:

1. gain an interdisciplinary understanding of current scholarship in this discipline;
2. explore the multicultural and international histories and contexts of questions related to gender, sexuality, and women;
3. grasp the intersections between race, class, gender, and sexuality from different disciplinary perspectives;
4. challenge commonly held notions about gender, sexuality, and women in ways that promote social change;
5. explore individual and professional interests in this field in ways that enhance their personal lives as well as their professional goals;

Students wishing to pursue the major or minor in gender, sexuality, and women's studies should meet with the undergraduate advisor.

Candidates must complete 120 credits in course work including satisfaction of the University General Education Requirements (p. 34) and the College of Liberal Arts and Sciences Group Requirements (p. 222), as well as the departmental major requirements cited below. All course work must be completed in accordance with the regulations of the University (p. 11) and the College (p. 221) governing undergraduate scholarship and degrees.

MAJOR REQUIREMENTS consist of thirty-two credits distributed as follows:

Code	Title	Credits
Core Courses		
GSW 2500	Humanities Perspectives on Gender, Sexuality, and Women	3
GSW 2600	History of Women, Gender and Sexuality in the Modern World	3
GSW 2700	Social Science Perspectives on Gender, Sexuality, and Women	3
GSW 5200	Feminist, Gender, and Queer Theory	3
GSW 5990	Senior Project Seminar	4
Electives		
Select 16 credits of one of the Areas of Focus (see lists below)		16
Total Credits		32

Electives from Areas of Focus

Students are encouraged to take sixteen credits from within one of the following areas of focus:

- Literature, Film, and Media Studies
- LGBTQ Studies
- Social Sciences
- Historical Studies

Areas of focus allow students to specialize within the program in ways that enhance their academic and professional goals. However, students are not required to take all of their credits within one focus area; they can take sixteen credits from among all of the listed courses. Because new courses are created by faculty on a rolling basis, students are encouraged to consult with the director or the undergraduate advisor about any courses not on the following list which may be included in their major.

NOTE: some of the courses in the following curricula are offered for variable topics and only suitable as electives in this program for particular content. All such courses are cited below as "when approved" options.

Literature, Film, and Media Studies

Code	Title	Credits
AFS/GSW 5110	Black Women in America	3
ANT 5240	Cross Cultural Study of Gender	3
CLA 3050/5050	Cleopatra	3
CLA 3190	Topics on Women in Antiquity	3
COM 3010	Media Analysis and Criticism	3
COM 5020	Studies in Film History (when approved)	3
COM 5360	Gender and Communication	3
ENG 2570	Literature By and About Women: Literature and Writing	3
ENG 5020	Topics in Media and Modern Culture (when approved)	3
ENG/GSW 5030	Topics in Women's Studies	3
ENG 5070	Topics in Film and Media (when approved)	4
ENG 5150	Shakespeare (when approved)	3
GER 5400	Cultural Studies and Criticism (when approved)	3-4
GSW 5300	Topics in LGBTQ Studies	3
GSW 5400	Topics in Gender and Women's Studies	3
NE/GSW 3520	Women and Gender in Middle East History	3

LGBTQ Studies

Code	Title	Credits
COM 1010	Oral Communication: Basic Speech (when approved)	3
ENG 5080	Topics in Global and Transnational Studies (when approved)	3
GSW 5300	Topics in LGBTQ Studies	3
PHI 5800	Special Topics in Philosophy (when approved)	2-4
PSY 3380	Human Sexuality	3

Social Sciences

Code	Title	Credits
AFS/GSW 5110	Black Women in America	3
ANT 5240	Cross Cultural Study of Gender	3
PSY 3250	Psychology of Gender	3
CRJ/GSW 2750	Diversity Issues in Criminal Justice	3

PSY 3380	Human Sexuality	3
SOC 3400	Exploring Marriage and Other Intimate Relationships	3
SOC 4460	Women in Society	3
SOC 5400	The Family	3
SOC 5410	Marriage and Family Problems	3
SOC 5870	Violence in the Family	3

Historical Studies

Code	Title	Credits
CLA 3050/5050	Cleopatra	3
CLA 3190	Topics on Women in Antiquity	3
HIS 3250	The Family in History	3-4
HIS 5200	Women, Gender, and Sexuality in US History	3
HIS 5251	History of Feminism	4
NE/GSW 3520	Women and Gender in Middle East History	3

Gender, Sexuality and Women's Studies Honors

Qualified students planning post-baccalaureate work in GSW or in a professional school are especially encouraged to obtain a Bachelor of Arts degree 'With Honors in Gender, Sexuality and Women's Studies.' Honors majors must have a 3.5 g.p.a. in GSW courses and a 3.3 cumulative g.p.a. in all courses. Honors majors must complete at least fifteen credits in honors-designated coursework, including at least one 4000-level seminar offered through the Honors College; six additional credits in GSW honors courses, of which at least three credits must be in an upper-division (numbered 3000 or above) honors-option course; and GSW 5990 (Honors-designated Senior Project Seminar). For information about honors-designated coursework available each semester, visit the Honors College website (http://www.honors.wayne.edu/classes.php).

Gender, Sexuality and Women's Studies Minor or Cognate Study

MINOR REQUIREMENTS consist of eighteen credits distributed as follows:

Code	Title	Credits
Required Course		
GSW 5200	Feminist, Gender, and Queer Theory	3
Other Courses		
Select two of the following:		6
GSW 2500	Humanities Perspectives on Gender, Sexuality, and Women	
GSW 2600	History of Women, Gender and Sexuality in the Modern World	
GSW 2700	Social Science Perspectives on Gender, Sexuality, and Women	
Electives		
Select nine credits from the following focus areas: [1]		9
Literature, Film, and Media Studies		
LGBTQ Studies		
Social Sciences		
Historical Studies		
Total Credits		18

[1] Similar to the B.A. program, the focus areas (p. 261) allow students to specialize within the program in ways that enhance their academic and professional goals. Students are encouraged to take the nine credits from within one focus area, however they are not required to do so and may take the nine credits from among all of the options listed.

Geology

Office: 0224 Old Main; (313) 577-2506
Chairperson: Mark Baskaran
Academic Advisor: Dawn Niedermiller
Academic Services Officer: John Niedermiller
http://clas.wayne.edu/Geology/

Geology is the scientific study of planet Earth and involves the observation and interpretation of processes that form and change our world. Some of these processes, such as earthquakes, tsunamis, and volcanic eruptions, proceed rapidly, often with catastrophic consequences. Others, such as erosion or mountain building can progress so slowly that their results are scarcely noticeable over a human lifetime. Each of these processes, however, can exert a profound influence on human activities and can, in turn, be influenced intentionally or unintentionally by human activities.

The courses offered by this department are designed to serve the needs of five groups of students:

1. Those who desire a general knowledge of geology as part of a liberal education;
2. Those who need geological information as a cognate subject in other professions;
3. Those who wish to major in geology as part of a broad liberal arts education;
4. Those who wish to major in environmental science;
5. Those who plan to become professional geologists.

Introductory courses are primarily general, but they also provide a foundation in geology for the student who desires to continue an intensive program of study. Students with an interest in environmental problems will find a number of relevant courses among those offered by the Department of Geology. In addition, a variety of courses in various phases of geology is available to the general student. Intermediate and advanced courses are designed to develop the principles of geology beyond the elementary level and to give a firm technical foundation for advanced study.

- Geology (B.A.) (p. 262)
- Geology (B.S.) (p. 263)
- Geology Minor (p. 264)
- Geochemistry Minor (p. 264)
- Geophysics Minor (p. 264)

Geology (B.A.)

Geology is the scientific study of planet Earth and involves the observation and interpretation of processes that form and change our world. Some of these processes, such as earthquakes, tsunamis, and volcanic eruptions, proceed rapidly, often with catastrophic consequences. Others, such as erosion or mountain building can progress so slowly that their results are scarcely noticeable over a human lifetime. Each of these processes, however, can exert a profound influence on human activities and can, in turn, be influenced intentionally or unintentionally by human activities.

Admission Requirements

Admission requirements for this program are satisfied by the general requirements for undergraduate admission (p. 22) to the University.

Candidates must complete 120 credits in course work including satisfaction of the University General Education Requirements (p. 34) and the College of Liberal Arts and Sciences Group Requirements (p. 222), as well as the departmental major requirements cited below. All course work must be completed in accordance with the regulations of the University (p. 11) and the College (p. 221) governing undergraduate scholarship and degrees.

Major Requirements

Students must complete twenty-six credits in geology beyond GEL 1020. These must include:

Code	Title	Credits
GEL 2130	Mineralogy	4
GEL 3160	Petrology	4
GEL 3300	Structural Geology	4
GEL 3400	Principles of Sedimentology and Stratigraphy	4
GEL 5993	Writing Intensive Course in Geology	0
At least two credits in a geology field course		2

Cognate Requirements

At least one college course in each of two of the following fields is required: biology, chemistry, or physics. MAT 1800 and satisfaction of the Foreign Language Group Requirement are also required.

Geology majors should consult their advisor regarding additional recommended cognate courses. Depending on interest and future goals, supplementary courses in mathematics, physics and chemistry, as well as courses in biology, computer science, engineering, and urban studies might be of particular value.

Geology Honors

The Honors Program in Geology is open to students of superior academic ability who are majoring in geology. To be recommended for an honors degree from this department, a student must maintain a cumulative grade point average of at least 3.3. He/she must accumulate at least twelve credits in honors-designated courses including: two Geology Honors or Honors Option courses (min. 6 credits), GEL 4998: Honors Thesis (3 credits), and one 4200-level Honors Seminar (3 credits).

Geology (B.S.)

Geology is the scientific study of planet Earth and involves the observation and interpretation of processes that form and change our world. Some of these processes, such as earthquakes, tsunamis, and volcanic eruptions, proceed rapidly, often with catastrophic consequences. Others, such as erosion or mountain building can progress so slowly that their results are scarcely noticeable over a human lifetime. Each of these processes, however, can exert a profound influence on human activities and can, in turn, be influenced intentionally or unintentionally by human activities.

Admission Requirements

Admission requirements for this program are satisfied by the general requirements for undergraduate admission (p. 22) to the University.

Candidates must complete 120 credits in course work including satisfaction of the University General Education Requirements (p. 34) and the College of Liberal Arts and Sciences Group Requirements (p. 222), as well as the departmental major requirements cited below. All course work must be completed in accordance with the regulations of the University (p. 11) and the College (p. 221) governing undergraduate scholarship and degrees.

Major Requirements

Students must complete at least thirty-four credits in geology exclusive of the introductory courses (1000-level) and must include the following:

Code	Title	Credits
Twenty of the thirty-four credits from advanced courses (numbered 3000 and above)		
GEL 2130	Mineralogy	4
GEL 3160	Petrology	4
GEL 3300	Structural Geology	4
GEL 3400	Principles of Sedimentology and Stratigraphy	4
GEL 5993	Writing Intensive Course in Geology	0
Credits in field mapping and field techniques, to be fulfilled by completed six credits in a summer field course [1]		6

[1] If the Geology Department at Wayne State University does not offer a summer field course in any given year, students should complete the field course requirement by attending an approved field course at another university. In certain unusual circumstances the required six credits in field mapping and field techniques may be earned through an extended field-oriented research project when this project involves extensive field mapping and is under the direct supervision of a faculty member or other qualified field geologist throughout the duration of the field work. Questions about appropriate Field Camp opportunities outside of Wayne State University should be directed to the program advisor and/or faculty members.

Cognate Requirements

Code	Title	Credits
MAT 1800 & MAT 2010	Elementary Functions and Calculus I (or equivalent)	8
Select one of the following sequences or equivalent:		8
PHY 2130 & PHY 2131	Physics for the Life Sciences I and Physics for the Life Sciences Laboratory	
PHY 2140 & PHY 2141	Physics for the Life Sciences II and Physics for the Life Sciences Laboratory	
OR		
PHY 2170 & PHY 2171	University Physics for Scientists I and University Physics Laboratory	
PHY 2180 & PHY 2181	University Physics for Scientists II and University Physics Laboratory II	
AND		
CHM 1220 & CHM 1230	General Chemistry I and General Chemistry I Laboratory (or equivalent)	5
BIO 1500	Basic Life Diversity	4
A semester of biology (BIO 1500 or equivalent) is strongly recommended		4
Total Credits		29

Although there are no required cognate courses beyond those listed above, geology majors should consult their advisor regarding cognate courses which might be of value to their particular program. Depending on interest and future goals, additional courses in mathematics, physics, and chemistry, as well as courses in biology, computer science, civil engineering, and urban studies might be of particular value.

Geology Honors

The Honors Program in Geology is open to students of superior academic ability who are majoring in geology. To be recommended for an honors degree from this department, a student must maintain a cumulative grade point average of at least 3.3. He/she must accumulate at least twelve credits in honors-designated courses including: two Geology Honors or Honors Option courses (min. 6 credits), GEL 4998: Honors Thesis (3 credits), and one 4200-level Honors Seminar (3 credits).

Geology Minor

The Department offers a minor in geology for undergraduate students. The minor consists of twenty credits in geology (usually consisting of five courses). Although desirable courses for a student's minor program should be determined in consultation with Geology Department staff members. Anyone wishing to complete a minor in geology should contact the Department advisor as soon as possible, so that an appropriate program can be formulated.

Code	Title	Credits
Required courses:		8
GEL 1010	Geology: The Science of the Earth	
GEL 1020	Interpreting the Earth	
Elective coursework (at least four credits in the minor must be completed in courses at the 3000-level or above) [1]		12
Total Credits		20

[1] GEL 1050 may only be applied for credit to a minor with the permission of the student's advisor in consultation with the Chairperson of the Department

Geochemistry Minor

Geochemistry is a state-of-the-art science that studies the abundance and mobility of elements and compounds and their movement through Earth's continental crust, atmosphere, oceans, lakes, rivers and streams. The skills acquired through this minor are relevant to students interested in environmental and natural-resource topics associated with archaeological, anthropological, biological, chemical and geological studies.

The Geochemistry Minor requires 23-25 credits, including:

Code	Title	Credits
Core Courses		16-17
CHM 1220	General Chemistry I	
or CHM 1225	General Chemistry I for Engineers	
CHM 1230	General Chemistry I Laboratory	
CHM 1240	Organic Chemistry I	
GEL 1010	Geology: The Science of the Earth	
GEL 1011	Geology: The Science of the Earth Laboratory	
GEL 5120	Environmental Geochemistry	
Chemistry Elective Course (select one of the following)		3-4
CHM 2220	Organic Chemistry II	
or CHM 2225	Organic Chemistry II for Engineers	
CHM 2280	General Chemistry II: Analytical Chemistry	
CHM 3020	Intermediate Inorganic Chemistry I	
Geology Elective Course (select one of the following)		4
GEL 5150	Soils and Soil Pollution	
GEL 5510	Environmental Fate and Transport of Pollutants	
GEL 6400	Nuclear Geology	
Total Credits		23-25

Geophysics Minor

Geophysics seeks to understand the inner workings of inner earth and its surroundings. A variety of physical measurements – involving seismic waves, magnetic fields, gravity, electric potential and satellite-based geodesy – are made to probe the interior and study the surface and internal process of our planet. The geophysics study encompasses field work as well as theoretical and experimental studies, through which students will learn about the mechanics of landslides, earthquakes and other natural hazards. Employment opportunities include oil, gas, petroleum and mineral exploration companies and environmental consulting companies. This minor could also serve as a pathway for entry to a graduate program in seismology.

The Geophysics minor requires a minimum of 23-25 credits.

Code	Title	Credits
Geology courses [1]		
GEL 1010	Geology: The Science of the Earth	3
GEL 1011	Geology: The Science of the Earth Laboratory	1
GEL 5210	Applied Geophysics	4
Select one of the following:		4
GEL 3300	Structural Geology	
GEL 5420	Mathematical Methods in Earth Science	
GEL 5450	Hydrogeology	
GEL 6400	Nuclear Geology	
Physics courses		
PHY 2170 & PHY 2171	University Physics for Scientists I and University Physics Laboratory	4-5
or PHY 2175	University Physics for Engineers I	
PHY 2180 & PHY 2181	University Physics for Scientists II and University Physics Laboratory II	4-5
or PHY 2185	University Physics for Engineers II	
Select one of the following:		3
PHY 3300	Introductory Modern Physics	
PHY 5100	Methods of Theoretical Physics I	
PHY 5200	Classical Mechanics I	
PHY 5340	Optics	
PHY 3310 & PHY 3750	Introductory Modern Physics Laboratory and Introduction to Computational Methods	
Another PHY course above the 4000 level [2]		
Total Credits		23-25

[1] Two courses must not have been applied toward major requirements or another minor

[2] The course should be chosen in consultation with an advisor.

History

Office: 3094 Faculty/Administration Building; 313-577-2525
Chairperson: Elizabeth V. Faue
Undergraduate Advisor: Gayle McCreedy
http://www.clas.wayne.edu/history

History is central to our understanding of the human experience. The study of the past allows us to place our world in context, whether we want to understand international crises, the significance of a national election, or social relations within our own community. The skills of the

historian - the ability to do research in original sources, to think critically, and to write clearly and persuasively - are highly valued in our changing world. The Wayne State Department of History maintains an international reputation for excellence in history, most notably in labor and urban history and in the history of governance and citizenship. Our faculty has received numerous awards for cutting-edge research and excellence in teaching. We teach undergraduate students fundamental research, analytical, and writing skills and provide a broad-based foundation in historical knowledge to support a variety of career options.

- History (B.A.) (p. 265)
- History Minor (p. 266)
- History of Science, Technology, Environment, and Medicine Minor (p. 266)
- Public History Minor (p. 266)
- Society and the Environment Minor (p. 266)

History (B.A.)

History is central to our understanding of the human experience. The study of the past allows us to place our world in context, whether we want to understand international crises, the significance of a national election, or social relations within our own community. The skills of the historian - the ability to do research in original sources, to think critically, and to write clearly and persuasively - are highly valued in our changing world. The Wayne State Department of History maintains an international reputation for excellence in history, most notably in labor and urban history and in the history of governance and citizenship. Our faculty has received numerous awards for cutting-edge research and excellence in teaching. We teach undergraduate students fundamental research, analytical, and writing skills and provide a broad-based foundation in historical knowledge to support a variety of career options.

Admission Requirements

Admission requirements for this program are satisfied by the general requirements for undergraduate admission (p. 22) to the University.

Career Considerations

Continuing on in History

Undergraduate majors in History are often looking forward to graduate studies and becoming a professional historian, doing research and teaching in a university setting. Student pursuing this option should be aware that and overall GPA of at least a 3.00 and a major GPA of at least 3.25 is required to be competitive for admission to graduate school. Students who intend to complete an M.A. at Wayne State before moving to another institution for the Ph.D. are encouraged to undertake the AGRADE program, which allows majors to double-count up to 16 hours of undergraduate coursework for their graduate degree.

Teaching History at the High School Level

Majors who are interested in teaching History to teens rather than adults often pursue a B.A. in history and an M.A.T. through the College of Education. Students may need a provisional certificate to teach while earning their graduate education degree, depending on the setting.

Archives and Libraries

Many of our alumni are employed as archivists or librarians in historical collections. Wayne State offers a nationally-recognized graduate certificate in Archival Administration, which can be undertaken on its own or in conjunction with an M.A. in History or an Master's in Information Sciences.

Law and the LawStart program

History is a common major for students interested in pursuing a law degree. Students interested in Law are encouraged to consider the LawStart program, which allows students to combine work on the B.A. and J.D. in the fourth year, saving a year in earning both degrees.

Non-Profit Management of Historical Agencies

Many history majors pursue careers in public history or in business and industry. A minor in business administration can help prepare majors for managing non-profit historical agencies as well as serve as background for an M.B.A. program.

Pre-Med Curriculum

With the current shift toward STEM disciplines, students are finding that combining a major in History may give their med school applications a second look by providing a more well-rounded undergraduate experience. Students interested in attending medical school are encouraged to look into the MedStart Program.

Candidates must complete 120 credits in course work including satisfaction of the University General Education Requirements (p. 34) and the College of Liberal Arts and Sciences Group Requirements (p. 222), as well as the departmental major requirements cited below. All course work must be completed in accordance with the regulations of the University (p. 11) and the College (p. 221) governing undergraduate scholarship and degrees.

Major Requirements

Students must complete thirty-six credits in History (which may include a maximum of 18 transfer credits). Specific requirements are as follows:

Code	Title	Credits
Survey Courses (select one from each of two different geographic regions)		6-8
Europe		
HIS 1000	World Civilization to 1500	
HIS 1300	Europe and the World: 1500-1945	
HIS 1400	The World Since 1945	
HIS 1995	Nature and Societal Transitions	
HIS 2605	History of Women, Gender and Sexuality in the Modern World	
United States		
HIS 1050	History of the Headlines: United States Since World War II	
HIS 2040	American Foundations to 1877	
HIS 2050	Modern America: Since 1877	
World		
HIS 1600	African Civilizations to 1800	
HIS 1610	African Civilizations Since 1800	
HIS 1700	East Asia to the 1700s	
HIS 1710	History of Modern East Asia	
HIS 1900	History of Colonial Latin America	
HIS 1910	Latin America from Independence to the Present	
HIS 3000	The Historian's Craft	3
Advanced Courses		18
Select five History courses numbered 3001 or above, with at least 3 courses numbered above 5000. Special courses do not count for this requirement (excludes HIS 4990, HIS 4997, and HIS 5996).Of these 5 courses, students must include diversity in geographic content by including one course in each geographic region (Europe, United States, World).		
Chronological Distribution		

	Within the work done to fulfill the survey sequence and the advanced coursework, two courses must be in the pre-1800 time period and two courses must be in the post-1800 time period so that every major has research experience with pre- and post-industrial history.	
HIS 5996	Junior or Senior Research Seminar	3

Additional History courses as needed to reach 36 total hours in the major.

History Honors (B.A. Program)

Students contemplating advanced degrees in History are encouraged to obtain the B.A. with Honors in History. Honors majors must complete the following in addition to the normal major requirements, above:

Code	Title	Credits
Cumulative GPA of a 3.30, and a major GPA of 3.50		
15 credits in honors-designated coursework, including:		
HON 4250	Seminar: Global Perspectives on Historical Studies	
6 credits in honors-option courses in History which are numbered above 3000		
One additional honor course in any discipline		
HIS 5995, the History Honors Seminar, which is taken after the completion of HIS 5996. Typically, students will begin their senior thesis in HIS 5996 and complete it in HIS 5995. This thesis will be directed by two regular faculty members; the student will also defend the thesis before them.		

History Minor

The minimum requirement for a minor in history is eighteen credits of history coursework, of which a maximum of nine credits can be transferred from other institutions. Minors must also have a 2.00 g.p.a. in history courses and complete:

Code	Title	Credits
HIS 3000	The Historian's Craft	3
At least six credits in courses numbered 3000 or above		6
Additional History courses as needed		9
Total Credits		18

History of Science, Technology, Environment, and Medicine Minor

The minor in History of Science, Technology, Environment, and Medicine aims to provide science majors as well as social science and humanities students with an interdisciplinary foundation in the history of science, environment, and medicine. The minor requires the completion of 18 credits.

Requirements

Code	Title	Credits
Core Courses		6
HIS 1995	Nature and Societal Transitions	
HIS 3585	Science, Technology, and Society	
Elective Courses		12
Historical Studies (minimum 6 credits; maximum 12 credits)		
HIS 2510	Science, Technology, and War	
HIS 3440	American Medicine in the Twentieth Century	
HIS 5407	The Scientific Revolution	
HIS 5425	American Environmental History	
HIS 5540	World Environmental History since 1900	
Cognate Courses (maximum 6 credits)		
ANT 3400	Introduction to Medical Anthropology	
ANT 3410	Global Health	
ANT 5140	Biology and Culture	
ECO 5230	Environmental Economics	
PH 3500	Environmental Health	
PHI 1130	Environmental Ethics	
PHI 2140	Ancient Greek Medicine and Psychology	
PHI 2550	Introduction to Philosophy of Science	
PHI 2650	Philosophy of Psychology	
PS 3450	Environmental Policy and Politics	
SOC 4205	Seminar in Medical Sociology	
Total Credits		18

Public History Minor

A student pursuing a Public History minor must complete a minimum of eighteen credits, including the following:

Code	Title	Credits
Core Courses		9
HIS 3000	The Historian's Craft	
HIS 4993	History Communication	
HIS 4997	Internship in Public History	
Elective courses [1]		9
Total Credits		18

[1] Students must take at least three additional History courses numbered 3000 or above for a minimum of nine credits; at least one of these courses must require students to produce an original research project (in a typical semester, several courses will fulfill this requirement, and students can determine which courses do so in consultation with the Academic Advisor and/or Director of Undergraduate Studies).

Society and the Environment Minor

The Society and the Environment minor provides students with a fundamental understanding of the impact of humans on the environment through exposure to principles of ecology and related sciences, as well as insights derived from a variety of social science and humanities disciplines.

The Society and Environment minor requires a minimum of 18 credits.

Code	Title	Credits
Required Courses		6-7
EVS 1500	Introduction to Environmental Science	
HIS 5425	American Environmental History	
or HIS 5540	World Environmental History since 1900	
Elective courses (select four from the following list)		12-14
ANT 5140	Biology and Culture	
BIO 3500	Ecology and the Environment	
ECO 5230	Environmental Economics	
ENG 2420	Literature and Science	
GEL 3100	Air and Water in Environmental Systems	
HIS 5425	American Environmental History [1]	
HIS 5540	World Environmental History since 1900 [2]	

PH 3500	Environmental Health	
PHI 1130	Environmental Ethics	
PS 3450	Environmental Policy and Politics	
SOC 2205	Sociology of the Environment	
UP 4460	Sustainable Cities	
UP 5430	Cities and Food	
US 2000	Introduction to Urban Studies	
Total Credits		18-21

[1] Open to those who take HIS 5540 as a core course.

[2] Open to those who take HIS 5425 as a core course.

Jewish Studies

Office: 3094 Faculty/Administration Building; 313-577-2525
Coordinator: Howard Lupovitch
http://clas.wayne.edu/jewishstudies

The Jewish Studies minor engages students who are interested in learning about the history, culture, and languages of Jewish communities. In a variety of courses in history, literature, philosophy, political science, and the Hebrew language, students learn how Jewish thought has influenced the modern world and how it has been influenced in turn by the societies and cultures in which Jews have lived over the past four thousand years.

To earn a minor in Jewish Studies, a student must take a minimum of nineteen credits, including:

Code	Title	Credits
HEB 1010	Elementary Hebrew I	4
HIS/NE 3010	Jewish History from the Bible to 1492	4
HIS/NE 3011	Jewish History since 1492	3
Select a minimum of eight credits of the following:		8
ENG 5080	Topics in Global and Transnational Studies	
ENG 5490	Topics in American Literature	
ENG 5500	Topics in English and American Literature	
GER 5390	Holocaust Studies	
HIS/NE 3015	History of Judaism and Jewish Thought	
HIS 5460	History of the Holocaust	
NE 2010	The Bible and Ancient Mythology	
NE 2060	Hebrew/Israeli Film: Trends and Themes in Israeli Cinema	
NE 2700	Topics in Middle Eastern Studies	
NE 3225	Modern Israeli Culture: A Pluralistic Perspective	
PHI 2400	Introduction to the Philosophy of Religion	
PS 3835	Middle East Conflict	
PS 5999	Special Topics in Political Science	
Study Abroad Option		
ED 5998	Field Studies	
Total Credits		19

Latino/a and Latin American Studies

Office: 3326 Faculty Administration Building; 313-577-4378; Fax: 313-993-4073
Director: Jorge L. Chinea
Assistant Director for Student Services and Program Development: Melissa Miranda Morse
CBS Scholars Program Coordinator: Erik (Zach) Morales
College to Career Program Coordinator: Tamara Serrano Chandler
http://clas.wayne.edu/cllas/

Mission

The Center for Latino/a and Latin American Studies strives to promote equitable access to a quality university education to students interested in Latino/a and Latin American cultural studies, and to enhance diversity on the campus. The Center accomplishes its mission through a four-part program in:

1. student services;
2. research in the field of Latino/a and Latin American Studies;
3. internal University advocacy on Latino/a perspectives; and,
4. outreach to the Latino/a and larger off-campus communities.

The research and teaching specializations of the faculty associated with the Center are Mexican history, Caribbean studies, Latin American literature, United States Latino/a studies and student learning strategies in higher education.

Student Success Programs

Latino/a Studies' comprehensive student services are based on a leadership development and an academic self-empowerment model. The Center hosts an annual Academia del Pueblo Research Conference and offers three distinct comprehensive student success programs:

- the Summer Enrichment Program (SEP), currently funded by DTE Energy;
- the Chicano-Boricua Studies (CBS) Scholars Program, a WSU learning community, which continues to bear the previous name of the Center in honor of its alumni as well as the many contribution of its former faculty and staff; and,
- the College to Career (C2C) Program, a second WSU learning community, which is designed to prepare graduating students for post-baccalaureate/professional degrees and future careers

Students in good standing who are enrolled in these programs may be eligible for supplemental financial support through the WSU Office of Financial Aid, the John Helfman Latino en Marcha (LEM) Grant, the Wiese-Rometsch Scholarship and the Cynthia Estrada Labor and Social Justice Award.

- Latino/a and Latin American Studies (Co-Major) (p. 267)
- Latino/a and Latin American Studies Minor (p. 268)

Latino/a and Latin American Studies (Co-Major)

Completion of the Center's Co-Major Program leads to a co-major degree in the field of Latino/a and Latin American Studies. This multidisciplinary program of study is designed to strengthen the career preparation of students in all majors who plan to work in national and international multicultural environments where knowledge about Latin America, the Caribbean, Latino/a Studies, and multicultural diversity would be a valuable asset. Completion of the co-major is noted on the student's transcript.

Admission Requirements

Students submit a Declaration of Major Form at the beginning of their junior year.

Co-Major Requirements

Students must complete fifteen credits in the following core courses and a minimum of eighteen credits from the list of elective courses. Appropriate courses may be substituted with the prior approval of the Center's Director.

Code	Title	Credits
Core Courses		
Select five of the following:		15
LAS 2100	Chicano/a Literature and Culture	
LAS 2110	Puerto Rican Literature and Culture	
LAS 2410	History of Mexico	
LAS 2420	History of Puerto Rico and Cuba	
LAS 2430	History of Latino/as in the United States	
LAS 3610	Seminar in Latino/a Urban Problems	
Elective Courses		
Select eighteen credits of the following:		18
ANT 3220	The Inca and their Ancestors	
ANT 3540	Cultures and Societies of Latin America	
HIS 3995	Special Topics in History	
PS 3735	Politics of Latin America	
SPA 4630	Introduction to Colonial Latin American Literature	
or SPA 4640	Introduction to Modern and Contemporary Latin American Literature	
SPA 5560	Spanish American Cultures and their Traditions	
SPA 6600	Colonial Latin American Studies	
SPA 6620	Latin American Novel in the 20th and 21st Centuries	
SPA 6630	Spanish American Poetry	
SPA 6670	Latin American Novel to 1900	
Total Credits		33

Latino/a and Latin American Studies Minor

The Center's minor in Latino/a and Latin American Studies was created for all WSU students wishing to pursue a formal course of studies in U.S. Latino/a and Latin American cultural studies. It requires six courses for a minimum of eighteen credits. Students desiring to minor in Latino/a and Latin American Studies students must complete:

Code	Title	Credits
Introductory LAS research course		
LAS 1420	Introduction to Interdisciplinary Latino/a Studies Research	3
LAS core courses		
Select two of the following:		6
LAS 2100/ SPA 2400	Chicano/a Literature and Culture	
LAS 2110/ SPA 2500	Puerto Rican Literature and Culture	
LAS 2410/ HIS 2440	History of Mexico	
LAS 2420	History of Puerto Rico and Cuba	
LAS/HIS 2430	History of Latino/as in the United States	
LAS 3610	Seminar in Latino/a Urban Problems	
LAS/SPA 3800	Spanish for Heritage Learners	
LAS community-based research course		
LAS/SOC 3710	Learning About Your Community Through Research	4
Other courses		
Select minimum of two of the following:		5-6
ANT 3220	The Inca and their Ancestors	
ANT 3540	Cultures and Societies of Latin America	
ANT 5060	Urban Anthropology	
BEP 5000	Brazil Exchange Program	
HIS 3995	Special Topics in History	
LAS/HIS 1910	Latin America from Independence to the Present	
LAS 3990	Directed Study	
LAS/HIS 5231/7231	The Conquest in Latin America	
LAS/HIS 5234	Race in Colonial Latin America	
LAS/SPA 5560	Spanish American Cultures and their Traditions	
PS 3735	Politics of Latin America	
PS 3795	Latin America in World Affairs	
SPA 3025	Cultural Connections, Grammar and Composition II	
SPA 3040	Commercial Spanish	
SPA 3050	Spanish for the Health Care Profession	
SPA 3200	Conversation	
SPA 3300	Introduction to Cultural and Literary Analysis	
SPA 4610	Introduction to Early Modern Spanish Literature	
SPA 4620	Introduction to Modern and Contemporary Spanish Literature	
SPA 4630	Introduction to Colonial Latin American Literature	
SPA 4640	Introduction to Modern and Contemporary Latin American Literature	
Total Credits		18-19

Law Minor

Through a partnership between the College of Liberal Arts and Sciences and the Law School, undergraduate students can earn a minor in law. This includes special undergraduate courses taught by law school faculty.

The minor in law requires a minimum of 19-20 credits.

Code	Title	Credits
PS 3100	American Legal Systems and Processes	4
LEX 5000	Law in Social Context	3
LEX 5010	Law and Harm	3
LEX 5020	Legal Procedure	3
Select one of the following Philosophy courses:		3
PHI 2330	Introduction to Social and Political Philosophy	
PHI 2390	Philosophy of Human Rights	
PHI 3270	Foundations of Law	
Select one the courses listed in Appendix A (below).		3-4
Total Credits		19-20

Appendix A

Code	Title	Credits
AFS 2210	Black Social and Political Thought	4
AFS/HIS 3230	The Civil Rights Movement	3
AFS/SOC 5580	Law and the African American Experience	4
CRJ 2550	Race, Crime and Justice	3
CRJ 2650	Gender and Crime	3

CRJ 2750	Diversity Issues in Criminal Justice	3
CRJ 3050	Mental Health and Crime	3
CRJ 3120	Politics of the Criminal Justice Process	3
CRJ 3400	Juvenile Delinquency and Justice	4
CRJ 4050	Crime and Public Health	3
CRJ 4740	Constitutional Criminal Procedure	4
CRJ/SOC 5810	Law in Human Society	3
ECO 5250	Economic Analysis of Law	4
HIS 5160	American Legal Culture to 1857	4
HIS 5170	American Legal Culture after 1857	4
PHI 1120	Professional Ethics	3
PHI 2320	Introduction to Ethics	3
PHI 2330	Introduction to Social and Political Philosophy	3
PHI 5270	Philosophy of Law	4
PS 2410	Introduction to Public Policy	4
PS 2420	Ethics and Politics of Public Policy	4
PS 2510	Introduction to Political Ideologies	4
PS 3030	Political Interest Groups	4
PS 3040	The Legislative Process	4
PS 3050	Politics of the American Presidency	4
PS 3060	State Government and Politics	4
PS 3070	Michigan Politics	4
PS 3080	Gender and Politics	4
PS 3515	American Political Thought	3-4
PS 3520	Justice	4
PS 5110	Constitutional Law	4
PS 5120	Constitutional Rights and Liberties	4
PS 5820	International Law	4
PS 5850	Human Rights	4
PS 5999	Special Topics in Political Science	1-4

LawStart Program

Director: Eun-Jung Kim,
Academic Advisor: Ryan Ferrante
http://clas.wayne.edu/lawstart

Housed within the College of Liberal Arts and Sciences, the Wayne State University LawStart Program helps highly-qualified undergraduates to complete their General Education, College, and Major requirements within approximately three years, or 90-100 undergraduate credits. Students will then apply to enter Wayne State Law School for their fourth year of undergraduate education. Credits earned during the first year of law school will double-count to fulfill students' remaining undergraduate elective credit requirements. Students in the LawStart Program who are admitted to Wayne Law will receive the Bachelor's degree upon successful completion of all first-year law courses, normally at the end of the fourth year. They will receive the JD degree upon completion of all Law School coursework and other requirements, normally at the end of the sixth full-time year.

Admission Requirements

Students are eligible to apply to LawStart if they have completed between 24 and 64 credit hours, with a minimum of 24 credits hours being completed at Wayne State University. To qualify for admission to the LawStart program, students must be majoring in a subject in the College of Liberal Arts and Sciences, and must have a cumulative GPA requirement of 3.5 or better in college-level coursework. LawStart application materials also include a personal statement about future career goals, a resume, a graded writing sample from a college-level course, and 2-4 letters of recommendation. A LawStart selection committee may also require an interview for those students who make it to the final selection round.

Students will be accepted to the LawStart Program each fall semester, and application deadlines are in early Fall.

Once accepted into the LawStart program, students must:

- Maintain satisfactory progress toward completing their undergraduate coursework in three years, or by the time they reach 90-100 undergraduate credits.
- Maintain a cumulative GPA of at least 3.5 on a 4.0 scale. If students do not make satisfactory progress for two consecutive semesters, they may be removed from the LawStart program.
- Meet with a member of the Wayne Law admissions staff in November of the third year of undergraduate study, to receive information about the law school application process.
- Take the LSAT no later than midway through their third year of undergraduate study and apply for Wayne State Law School admission by no later than April 1st of the same year.
- Meet with the LawStart advisor at least once a semester, to ensure satisfactory progress toward LawStart program requirements.
- Meet with a departmental advisor at least once a semester, to ensure satisfactory progress toward completing their required undergraduate coursework.
- Participate in LawStart enrichment activities to ensure their preparedness for law school.

Any student failing to meet these program requirements may be removed from the LawStart program at the discretion of the LawStart selection committee. Any student removed or who withdraws from the program will need to complete their final year of undergraduate studies and any remaining requirements in order to attain the bachelor's degree.

In order to earn a bachelor's degree, LawStart students,must complete 120 credits in course work including satisfaction of the University General Education Requirements (p. 34) and the College of Liberal Arts and Sciences Group Requirements (p. 222), as well as the departmental major requirements. Acceptance to the LawStart program does not commit students to completing the JD degree. If a student is admitted to and enrolls in Wayne State Law School, he or she will receive a JD degree after completing all JD degree requirements equivalent to three years of full-time law school.

Linguistics

Office: Room 10303, 5057 Woodward; 313-577-8642
e-mail: linguistics@wayne.edu
Director: Ljiljana Progovac
Undergraduate Advisor: Corinne Forys
http://www.clas.wayne.edu/linguistics

Linguistics is devoted to the scientific study of language structure and use. The Linguistics Program at Wayne State offers an interdisciplinary approach to this field, permitting students to explore a wide range of topics and issues in language research. The core courses are offered on a regular basis. The program offers electives in the following areas:

1. linguistics and a language,
2. language structure,
3. language variation and change,
4. language acquisition and processing, and
5. sociolinguistics and discourse/pragmatics.

Training in linguistics prepares students for advanced work in linguistic research, as well as for employment in teaching English and foreign languages; computer systems (especially natural language processing); broadcasting, mass media and journalism; publishing and editing; translation; international business; intercultural communication and negotiation; law; and generally any profession requiring the precise use or analysis of speech or writing.

The Linguistics Program is administered by a director and an advisory committee of participating faculty who regularly teach courses for the program.

- Linguistics (B.A.) (p. 270)
- Linguistics Minor (p. 271)

Linguistics (B.A.)

Linguistics is devoted to the scientific study of language structure and use. The Linguistics Program at Wayne State offers an interdisciplinary approach to this field, permitting students to explore a wide range of topics and issues in language research. Training in linguistics prepares students for advanced work in linguistic research, as well as for employment in teaching English and foreign languages; computer systems (especially natural language processing); broadcasting, mass media and journalism; publishing and editing; translation; international business; intercultural communication and negotiation; law; and generally any profession requiring the precise use or analysis of speech or writing.

Admission Requirements

Admission requirements for this program are satisfied by the general requirements for undergraduate admission (p. 22) to the University.

Candidates must complete 120 credits in course work including satisfaction of the University General Education Requirements (p. 34) and the College of Liberal Arts and Sciences Group Requirements (p. 222), as well as the departmental major requirements cited below. All course work must be completed in accordance with the regulations of the University (p. 11) and the College (p. 221) governing undergraduate scholarship and degrees. Course selections are to be planned in consultation with the linguistics program advisor. Students must complete a minimum of thirty credits in course work to satisfy the major requirements as outlined below.

Required Courses

The linguistics major requirements consist of:

1. three required general courses;
2. one required language use course involving either the analysis of speech data acquired in fieldwork or theories that address language use; and
3. a set of electives.

Also, in the senior year, majors must register for and complete LIN 5993, Writing Intensive Requirement (0 credits). This course is to be taken in conjunction with another course, as explained under Linguistics Courses. In the final semester of study, assessment of knowledge in the major is determined by review of a student portfolio and by an exit interview conducted by members of the faculty. Both the portfolio and the interview must be deemed acceptable before the Program will certify completion of all major requirements.

Code	Title	Credits
Required General Linguistics Courses		
LIN 2720	Basic Concepts in Linguistics	3
or LIN 5700	Introduction to Linguistic Theory	
LIN 5290	Phonology	3
LIN 5300	Syntax	3
Required Language Use Course		
Select one of the following:		3
LIN 3310	Language and Culture	
LIN 5210	Arabic Sociolinguistics	
LIN 5320	Language and Societies	
LIN 5760	American Dialects	
LIN 5770	Sociolinguistics	
LIN 5900	Culture, Language and Cognition	
LIN 6710	Psycholinguistics	
LIN 6720	Topics in Language (Field Methods) [1]	
LIN 6720	Topics in Language (Pidgins and Creoles) [1]	
LIN 6720	Topics in Language (Pragmatics) [1]	
LIN 6720	Topics in Language (Language Variation) [1]	
Elective Courses		
Select 18 credits from the categories listed below, in consultation with advisor		18
Total Credits		30

Elective Option Areas

A. Linguistics and a Language

The student may complete up to nine credits in advanced language skills or in the linguistics of a chosen language, as part of their electives. Courses must be selected in consultation with the advisor.

B. Language Structure

Code	Title	Credits
LIN 1850	Introductory Symbolic Logic	3
or LIN 1860	Honors Introductory Symbolic Logic	
LIN 2730	Languages of the World	3
LIN 3080	Cognitive Psychology: Fundamental Processes	3
LIN 5050	Advanced Symbolic Logic	4
LIN 5200	Modal Logic	4
LIN 5220	Introduction to Chinese Linguistics	3
LIN 5230	Structure of Arabic	3
LIN 5240	Grammar of Chinese	3
LIN 5570	Philosophy of Language	4
LIN 5715	Morphology	3
LIN 5730	English Grammar	3
LIN 5745	Semantics	3
LIN 6710	Psycholinguistics	3
LIN 6720	Topics in Language (Field Methods) [1]	3
LIN 6720	Topics in Language (Typology) [1]	3
FRE 6400	Introduction to French Linguistics	3
SPA 6400	Introduction to Hispanic Linguistics	3

C. Language Variation and Change

Code	Title	Credits
LIN 2730	Languages of the World	3
LIN 3310	Language and Culture	3
LIN 5100	Languages of Asia	3
LIN 5220	Introduction to Chinese Linguistics	3
LIN 5320	Language and Societies	3

LIN 5715	Morphology	3
LIN 5760	American Dialects	3
LIN 5770	Sociolinguistics	3
LIN 6720	Topics in Language (Historical Linguistics) [1]	3
LIN 6720	Topics in Language (History of English) [1]	3
LIN 6720	Topics in Language (Typology) [1]	3
LIN 6720	Topics in Language (Language Variation) [1]	3
LIN 6720	Topics in Language (Field Methods) [1]	3
LIN 6720	Topics in Language (Pidgins and Creoles) [1]	3
LIN 6720	Topics in Language (Language and Evolution) [1]	3
CLA 1230	Word Origins: English Words from Greek and Latin	3-4
ITA 6400	Languages of Italy	3

D. Language Acquisition and Processing

Code	Title	Credits
LIN 3080	Cognitive Psychology: Fundamental Processes	3
LIN 3310	Language and Culture	3
LIN 5080	Phonetics	3
LIN 5360	Normal Language Acquisition and Usage	3
LIN 5750	Theories of Second Language Acquisition	3
LIN 5760	American Dialects	3
LIN 5900	Culture, Language and Cognition	3
LIN 6710	Psycholinguistics	3
LIN 6720	Topics in Language (Language and Evolution)	3
FRE 5200	French Phonetics and Pronunciation	3
PSY 2030	Statistical Methods in Psychology	4
PSY 3120	Brain and Behavior	3
SLP 5300	Introduction to Speech-Language Pathology	3

E. Sociolinguistics and Discourse/Pragmatics

Code	Title	Credits
LIN 2730	Languages of the World	3
LIN 3310	Language and Culture	3
LIN 5210	Arabic Sociolinguistics	3
LIN 5320	Language and Societies	3
LIN 5760	American Dialects	3
LIN 5770	Sociolinguistics	3
LIN 5900	Culture, Language and Cognition	3
LIN 6720	Topics in Language (Pragmatics) [1]	3
LIN 6720	Topics in Language (Language Variation) [1]	3
LIN 6720	Topics in Language (Language and Gender) [1]	3
LIN 6720	Topics in Language (Historical Linguistics) [1]	3
LIN 6720	Topics in Language (Pidgins and Creoles) [1]	3
LIN 6720	Topics in Language (Language and Evolution) [1]	3
ANT 5210	Anthropological Methods	4
PSY 2030	Statistical Methods in Psychology	4

[1] A maximum 12 credits may be earned in LIN 6720 predicated on topic selection.

Linguistics Honors Program

Students with an overall grade point average of 3.5 are eligible for admission to the Linguistics Honors Program. Satisfactory completion of the Honors Program will lead to a degree 'With Linguistics Honors' on the diploma. Students interested in the program should obtain detailed information from the Linguistics Program Undergraduate Advising Office.

Program Requirements: Students must complete one 5000-level or above Honors Option course as part of the major requirements, the Linguistics Honors Thesis (LIN 5993-H with approved LIN Writing Intensive course), one Honors Seminar from the HON 42XX series, and three additional Honors credits through any department to thereby complete the minimum twelve required Honors credits.

'AGRADE' Program (Accelerated Graduate Enrollment)

The Linguistics Program invites academically superior majors to apply for admission to the 'AGRADE' Program. 'AGRADE' procedures enable qualified seniors to enroll simultaneously in the undergraduate and graduate programs in Linguistics and to apply a maximum of sixteen credits toward both a bachelor's and a master's degree.

Qualified students may apply for the AGRADE program no earlier than the semester in which ninety credits are completed. Applicants must have an overall grade point average of 3.5 and not less than a 3.6 grade point average in the major courses already completed.

For more details about the 'AGRADE' Program, contact the Linguistics Program office: 313-577-8642; or by e-mail at: linguistics@wayne.edu

Linguistics Minor

A minor consists of four required courses and two additional courses in the Linguistics program. The required courses are:

Code	Title	Credits
LIN 5290	Phonology	3
LIN 5300	Syntax	3
LIN 2720	Basic Concepts in Linguistics	3
or LIN 5700	Introduction to Linguistic Theory	
One language use course [1]		3
Total Credits		12

[1] As specified under required courses for the Bachelor of Arts (p. 270).

Programs should be planned in consultation with an advisor.

Mathematics

Office: 1150 Faculty/Administration Building; 313-577-2479
Chairperson: Hengguang Li
Associate Chairperson: Daniel Drucker
Undergraduate Advisor: Kimberly Morgan
http://clas.wayne.edu/math/

The courses offered by the Department of Mathematics serve several purposes; they supply the mathematical preparation necessary for students specializing in the physical, life or social sciences, in business administration, in engineering, and in education; they provide a route by which students may achieve a level of competence to do research in any of several special mathematical areas; they allow students to prepare themselves for work as mathematicians and statisticians in industry and government; and they give an opportunity to all inquisitive students to learn something about modern mathematical ideas.

For details on Mathematics course placement, please see the Mathematics Placement Information (http://bulletins.wayne.edu/undergraduate/college-liberal-arts-sciences/mathematics/placement) section of this bulletin, or the Mathematics Placement Exam (http://testing.wayne.edu/register/math-placement-

exam.php) information provided by the Office of Testing, Evaluation and Research Services.

- Actuarial Mathematics (B.A.) (p. 272)
- Mathematical Economics (B.A.) (p. 273)
- Mathematics (B.A.) (p. 274)
- Mathematics (B.S.) (p. 276)
- Statistics (B.S.) (p. 279)
- Mathematics Minor (p. 279)
- Statistics Minor (p. 281)
- Advanced Courses for Non-Majors (p. 281)

Mathematics Placement Information

All students, including transfer and guest students, who plan to take MAT 0995, MAT 1050, MAT 1110, MAT 1120, MAT 1500, MAT 1800, or MAT 2010 as their first mathematics course at Wayne State must:

1. have a satisfactory ACT or SAT Math score (see below) that has been validated by the Testing Office OR
2. take the Mathematics Placement Exam.

Results of the Mathematics Placement Exam and/or the ACT or SAT Math score to determine the course into which the student is placed consistent with the following:

MAT 0995 and 1050: Students qualify by having achieved one of the following within the previous year:

1. a satisfactory score on the Mathematics Placement Exam,
2. a grade of CNC or above in MAT 0993 taken at WSU
3. a validated ACT Math score of 21 or higher
4. a validated SAT score of 500 (old version) or 530 (new version) or higher

For placement at this level, students should have a command of numerical and beginning algebra concepts and techniques corresponding approximately to one year of high school algebra.

MAT 1110 and 1500: Students qualify by having achieved one of the following within the previous year:

1. a satisfactory score on the Mathematics Placement Exam
2. a grade of at least C- in MAT 1050 taken at WSU
3. a grade of CNC or above in MAT 0995 taken at WSU
4. a validated ACT Math score of 26 or higher
5. a validated SAT Math score of 600 (old version) or 620 (new version) or higher

For placement at this level, students should have a command of algebra and basic geometry, corresponding approximately to three years of college-preparatory mathematics.

MAT 1120: Students qualify by having achieved one of the following within the previous year:

1. a satisfactory score on the Mathematics Placement Examination
2. a grade of at least C- in MAT 1110 taken at W.S.U.
3. a validated ACT Math score of 26 or higher
4. a validated SAT Math score of 600 (old version) or 620 (new version) or higher

MAT 1800: Students qualify by having achieved one of the following within the previous year:

1. satisfactory score on the Mathematics Placement Examination
2. a grade of at least C- in MAT 1050 taken at W.S.U.
3. a validated ACT Math score of 26 or higher
4. a validated SAT Math score of 600 (old version) or 620 (new version) or higher

For placement at this level, students should have a command of algebra and basic geometry, corresponding approximately to three years of college-preparatory mathematics.

MAT 2010: Students qualify by having achieved one of the following within the previous year:

1. a satisfactory score on the Mathematics Placement Exam
2. a grade of at least C- in MAT 1800 taken at W.S.U.
3. a validated ACT Math score of 29 or higher
4. a validated SAT Math score of 650 (old version) or 670 (new version) or higher

For placement at this level, students should have a command of algebra, geometry, trigonometry, and elementary functions corresponding approximately to four years of college-preparatory mathematics.

Math Placement Exam: The MPE must be taken before classes begin for the semester in which you plan to take the course. Any student who does not place into a MAT course using an ACT or SAT Math score as described above must take the MPE to determine MAT course placement. Students are also welcome to take the exam if they have taken the ACT and/or SAT, if they would like to attempt to place into a higher course. The MPE may only be taken twice. Students should enroll in the course they are placed into the first time they take the test. However, all students may take the test one additional time within six months of the first attempt. After two attempts at the examination, students must enroll in the course into which they are placed within three semesters. Visit the Testing website (http://testing.wayne.edu) for further information on the testing procedures.

Actuarial Mathematics (B.A.)

The courses offered by the Department of Mathematics serve several purposes; they supply the mathematical preparation necessary for students specializing in the physical, life or social sciences, in business administration, in engineering, and in education; they provide a route by which students may achieve a level of competence to do research in any of several special mathematical areas; they allow students to prepare themselves for work as mathematicians and statisticians in industry and government; and they give an opportunity to all inquisitive students to learn something about modern mathematical ideas.

Admission Requirements

Admission requirements for this program are satisfied by the general requirements for undergraduate admission (http://bulletins.wayne.edu/undergraduate/general-information/admission) to the University. Undergraduates declaring a mathematics major are strongly encouraged to meet with a departmental advisor before doing so. After a student's acceptance as a major, a student should consult a Departmental advisor at least once a semester to verify progress.

Students must complete 120 credits in course work including satisfaction of the University General Education Requirements (http://bulletins.wayne.edu/undergraduate/general-information/general-education) and the College of Liberal Arts and Sciences Group Requirements (http://bulletins.wayne.edu/undergraduate/college-liberal-arts-sciences/bachelors-degree-requirements), as well as the departmental major requirements cited below. All course work must be

completed in accordance with the regulations of the University (http://bulletins.wayne.edu/undergraduate/general-information/academic-regulations) and the College (http://bulletins.wayne.edu/undergraduate/college-liberal-arts-sciences/academic-regulations) governing undergraduate scholarship and degrees. The cumulative grade point average in mathematics (MAT) and statistics (STA) courses required for completion of a major option must be at least 2.0 and all coursework required must have a C- or better grade. A minimum of 15 credits of required coursework for the major at the 5030 level or above must be taken at Wayne State.

SPECIAL PROGRAMS

Emerging Scholars Program

The Emerging Scholars Program is a special honors program at the levels of MAT 1800, MAT 2010, and MAT 2020, that features collaborative learning through a challenging problem-solving workshop attached t the regular class. Each ESP calculus course (MAT 2010 and MAT 2020) carries four honors credits, though MAT 1800 does not offer honors credits. The program seeks dedicated, hard-working students who want to excel in mathematics. Students who place into the level below MAT 1800 are encouraged to enroll in MAT 1050 PREP as preparation for the Program. Contact the Department for further information.

AGRADE Program (Accelerated Graduate Enrollment)

Our AGRADE Program provides the opportunity for top students to enroll simultaneously in an undergraduate and graduate program. Students can apply a maximum of 16 credits toward both an undergraduate and a graduate degree in the student's major field. Students electing AGRADE programs may expect to complete the bachelor's and master's degrees in five years of full-time study if they take full advantage of the program. For more details about the AGRADE Program, contact one of the graduate mathematics advisors, or the Graduate Office of the College of Liberal Arts and Sciences (313-577-2516).

Senior Rule

In their last undergraduate semester, Wayne State students with a 3.0 (or above) upper division grade point average have the option of taking a limited number of graduate credits. Graduate credit is awarded only for those courses taken in excess of baccalaureate degree requirements. Undergraduate and graduate courses combined may not exceed sixteen credits for the final semester of baccalaureate degree course work. For more information look under graduate admissions in the graduate bulletin.

Requirements

A minimum of 15 credits of major requirements at or above MAT or STA 5030 must be taken at Wayne State University. Note that STA courses previously designated by MAT (for example STA 2210 was previously labelled MAT 2210) are the same courses and meet the same requirements.

Minimum Grade Requirements

The following grade requirements must be satisfied to obtain the degree.

- C- or better if a course is a prerequisite for another course.
- C or better average grade for all courses.

Code	Title	Credits
Cognate Courses:		
Select one of the following Computer Science courses:		3-4
CSC 1100 & CSC 1101	Problem Solving and Programming and Problem Solving and Programming Laboratory	
CSC 2000	Introduction to C++ Programming Language	
CSC 2110 & CSC 2111	Computer Science I and Computer Science I Lab	
ECO 2010	Principles of Microeconomics	4
ECO 2020	Principles of Macroeconomics	4
FIN 3290	Business Finance	3
Cognate Courses - Credit Subtotal:		14-15
Mathematics and Statistics Courses:		
MAT 2010	Calculus I	4
MAT 2020	Calculus II	4
MAT 2030	Calculus III	4
MAT 2250	Elementary Linear Algebra	3
Select one of the following two courses (MAT 2350 is preferred if available, and is 3 credits rather than 4)		3-4
MAT 2350	Elementary Differential Equations	
MAT 2150	Differential Equations and Matrix Algebra	
STA 5030	Statistical Computing and Data Analysis	3
MAT 5700	Introduction to Probability Theory	4
MAT 5740 & MAT 5993	The Theory of Interest and Writing Intensive Course in Mathematics [1]	3
STA 5800	Introduction to Mathematical Statistics	4
Select two of the following options:		6-7
MAT 5710	Introduction to Stochastic Processes	
MAT 5750	Mathematics of Finance	
MAT 5770	Mathematical Models in Operations Research	
STA 5830	Applied Time Series	
MAT 5890	Special Topics in Mathematics (The topic must be approved by the Department of Mathematics):)	
Math and Statistics Courses - Credit Subtotal:		38-40
Major Courses - Credit Total:		52-55

[1] MAT 5993 is linked to MAT 5740. These two courses must be taken simultaneously.

Mathematical Economics (B.A.)

The purpose of the program is to provide rigorous training in mathematics and economics for students whose career goals require a high level of technical proficiency in these subjects. The program will be valuable for students who intend to pursue graduate work in economics, finance or applied mathematics, or pursue a career in economic analysis, finance, underwriting, actuarial sciences, banking, international trade, applied statistics, or operations research.

Admission Requirements

Admission requirements for this program are satisfied by the general requirements for undergraduate admission (p. 22) to the University.

Candidates must complete 120 credits in course work including satisfaction of the University General Education Requirements (p. 34) and the College of Liberal Arts and Sciences Group Requirements (p. 222), as well as the departmental major requirements cited below. All course work must be completed in accordance with the regulations of the University (p. 11) and the College (p. 221) governing undergraduate scholarship and degrees. Students must receive a grade of 'C-' or better in all Mathematics and Economics courses. An overall grade point average of 2.0 ('C') is required for graduation.

Major Requirements

Students considering a mathematical economics major should take ECO 2010 and ECO 2020 (Principles of Microeconomics and Macroeconomics) and MAT 2010 (Calculus 1) as soon as possible.

To satisfy the General Education Major Competency Requirement, Mathematical Economics majors must have a cumulative grade point average of 2.0 in their major courses.

A major consists of at least forty-six credits total - at least twenty-two credits in mathematics courses and twenty-four credits in economics courses. At least fifteen credits (eight credits of economics and seven credits of math) must be earned at Wayne State University.

Code	Title	Credits
Economics Requirements		
ECO 2010	Principles of Microeconomics	4
ECO 2020	Principles of Macroeconomics	4
ECO 5000	Intermediate Microeconomics	4
ECO 5050	Intermediate Macroeconomics	4
ECO 6000	Price and Allocation Theory	4
Select one of the following in conjunction with ECO 5993:		4
ECO 5020	Fundamentals of Economic Analysis I	
ECO 5030	Microeconomic Theory	
ECO 5100	Introductory Statistics and Econometrics	
ECO 5250	Economic Analysis of Law	
ECO 5300	International Trade	
ECO 5500	Public Finance	
ECO 5700	Money and Banking	
ECO 6100	Introduction to Econometrics	
ECO 5993	Writing Intensive Course in Economics (Can be taken with either the ECO or Math elective)	0
Mathematics Requirements		
MAT 2010	Calculus I	4
MAT 2020	Calculus II	4
MAT 2030	Calculus III	4
MAT 2250	Elementary Linear Algebra	3
MAT 5700	Introduction to Probability Theory	4
One MAT or STA course at or above 5030. Recommended courses are: [2]		3
STA 5030	Statistical Computing and Data Analysis	
MAT 5100	Numerical Methods I	
MAT 5210	Advanced Calculus	
MAT 5220	Partial Differential Equations	
MAT 5230	Complex Variables and Applications	
MAT 5280	Methods of Differential Equations	
MAT 5710	Introduction to Stochastic Processes	
MAT 5770	Mathematical Models in Operations Research	
MAT 5870	Methods of Optimization	
STA 5800	Introduction to Mathematical Statistics	
MAT 5993	Writing Intensive Course in Mathematics [3]	0
Total Credits		46

1 This is a paper completed in conjunction with a 5000-level economics or math course elective. You must register for this during the same semester that the 5000-level economics or math elective course is taken.

2 Excluding MAT 5120, MAT 5130, MAT 5180, MAT 5190, MAT 5992, MAT 6130, MAT 6150, MAT 6170, MAT 6180, MAT 6200 and MAT 6210.

3 This is a paper completed in conjunction with a 5000-level mathematics course elective. You must register for this during the same semester that the 5000-level mathematics elective course is taken. This requirement may also be satisfied by completion of ECO 5993.

Minimal Grade Requirements

Students must receive a grade of 'C- ' or better in all Mathematics and Economics courses. An overall grade point average of 2.0 ('C') is required for graduation.

Writing Proficiency/Writing Intensive Requirement

To enable the Department to evaluate their writing proficiency, mathematical economics majors must register for ECO 5993, the zero-credit WI course. This is a paper completed in conjunction with a 5000-level economics or math course elective. They must register for this during the same semester that the 5000-level economics or math elective course is taken. All mathematical economics majors must satisfy this requirement, even if they are not subject to the University General Education Requirements.

Student's Responsibility

It is each student's responsibility to learn the requirements, policies, and procedures governing the program they are following and to act accordingly. Students should consult both Mathematical Economics program advisors regularly in order to verify that Mathematical Economics requirements are being met in a timely fashion. Although the advisor will provide assistance, the responsibility for fulfilling degree requirements remains with the student.

Mathematics (B.A.)

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Admission Requirements

Admission requirements for this program are satisfied by the general requirements for undergraduate admission (p. 22) to the University. Undergraduates declaring a mathematics major are strongly encouraged to meet with a departmental advisor before doing so. After a student's acceptance as a major, a student should consult a Departmental advisor at least once a semester to verify progress.

Candidates must complete 120 credits in course work including satisfaction of the University General Education Requirements (p. 34) and the College of Liberal Arts and Sciences Group Requirements (p. 222), as well as the departmental major requirements cited below. All course work must be completed in accordance with the regulations of the University (p. 11) and the College (p. 221) governing undergraduate scholarship and degrees. The cumulative grade point average in mathematics (MAT) and statistics (STA) courses required for completion of a major option must be at least 2.0 and all coursework required must

have a C- or better grade. A minimum of 15 credits of required coursework for the major at the 5030 level or above must be taken at Wayne State.

SPECIAL PROGRAMS
Emerging Scholars Program

The Emerging Scholars Program is a special honors program at the levels of MAT 1800, MAT 2010, and MAT 2020, that features collaborative learning through a challenging problem-solving workshop attached t the regular class. Each ESP calculus course (MAT 2010 and MAT 2020) carries four honors credits, though MAT 1800 does not offer honors credits. The program seeks dedicated, hard-working students who want to excel in mathematics. Students who place into the level below MAT 1800 are encouraged to enroll in MAT 1050 PREP as preparation for the Program. Contact the Department for further information.

AGRADE Program (Accelerated Graduate Enrollment)

Our AGRADE Program provides the opportunity for top students to enroll simultaneously in an undergraduate and graduate program. Students can apply a maximum of 16 credits toward both an undergraduate and a graduate degree in the student's major field. Students electing AGRADE programs may expect to complete the bachelor's and master's degrees in five years of full-time study if they take full advantage of the program. For more details about the AGRADE Program, contact one of the graduate mathematics advisors, or the Graduate Office of the College of Liberal Arts and Sciences (313-577-2516).

Senior Rule

In their last undergraduate semester, Wayne State students with a 3.0 (or above) upper division grade point average have the option of taking a limited number of graduate credits. Graduate credit is awarded only for those courses taken in excess of baccalaureate degree requirements. Undergraduate and graduate courses combined may not exceed sixteen credits for the final semester of baccalaureate degree course work. For more information look under graduate admissions in the graduate bulletin.

REQUIREMENTS

Minimum Grade Requirements

The following grade requirements must be satisfied to obtain the degree.

- C- or better if a course is a prerequisite for another course.
- C or better average grade for all courses.

Concentrations

In addition to the general bachelor's degree requirements, the candidate must complete one of the following concentrations: A, B, C, or D, as described below. Note that STA courses previously designated by MAT (for example STA 2210 was previously labelled MAT 2210) are the same courses and meet the same requirements.

Concentration A: Prospective Graduate Study

This concentration is recommended for students who plan to pursue graduate study in mathematics.

Code	Title	Credits
MAT 2010	Calculus I	4
MAT 2020	Calculus II	4
MAT 2030	Calculus III	4
Select one of the following two options (MAT 2350 is preferred if available, and it is 3 credits rather than 4):		3-4
MAT 2350	Elementary Differential Equations	
MAT 2150	Differential Equations and Matrix Algebra	
MAT 2250	Elementary Linear Algebra	3
MAT 5070	Elementary Analysis	4
MAT 5420 & MAT 5993	Algebra I and Writing Intensive Course in Mathematics	4
MAT 5600	Introduction to Analysis I	4
MAT 5700	Introduction to Probability Theory	4
Select one of the following two options:		
MAT 5430	Algebra II	
MAT 5610	Introduction to Analysis II	
Select one of the following six options:		3-4
MAT 5230	Complex Variables and Applications	
MAT 5430	Algebra II	
MAT 5520	Introduction to Topology	
MAT 5530	Elementary Differential Geometry and its Applications	
MAT 5610	Introduction to Analysis II	
STA 5800	Introduction to Mathematical Statistics	
Select one of the following four options:		3-4
An MAT or STA course numbered 5030 or above [1]		
CSC 6500	Theory of Languages and Automata	
CSC 6620	Matrix Computation I	
CSC 6991	Topics in Computer Science (The topic must be approved by the Math Department Undergraduate Committee.)	
Total Credits		40-43

[1] Excluding MAT 5120, MAT 5130, MAT 5180, MAT 5190, MAT 5992, MAT 6130, MAT 6150, MAT 6170, MAT 6180, MAT 6200, or MAT 6210. Only one (at most) of the courses may be selected from MAT 5890 or MAT 5990. These electives are subject to advisor approval on the Student's Plan of Work.

Concentration B: General Topics

This concentration is for students interested in a broad range of topics.

Code	Title	Credits
MAT 2010	Calculus I	4
MAT 2020	Calculus II	4
MAT 2030	Calculus III	4
Select one of the following two options (MAT 2350 is preferred if available, and it is 3 credits rather than 4):		3-4
MAT 2350	Elementary Differential Equations	
MAT 2150	Differential Equations and Matrix Algebra	
MAT 2250	Elementary Linear Algebra	3
MAT 5070	Elementary Analysis	4
MAT 5700	Introduction to Probability Theory	4
MAT 5420 & MAT 5993	Algebra I and Writing Intensive Course in Mathematics	4
Select one of the following: [1]		9-12
Three additional MAT or STA courses numbered 5030 or above		
OR		
Two such courses, plus one of the following:		
CSC 6500	Theory of Languages and Automata	
CSC 6580	Design and Analysis of Algorithms	

	CSC 6620	Matrix Computation I
	CSC 6991	Topics in Computer Science (The topic must be approved by the Math Department Undergraduate Committee.)
Total Credits		39-43

[1] Excluding MAT 5120, MAT 5130, MAT 5180, MAT 5190, MAT 5992, MAT 6130, MAT 6150, MAT 6170, MAT 6180, MAT 6200, or MAT 6210. Only one (at most) of the courses may be selected from MAT 5890 or MAT 5990. These electives are subject to advisor approval on the Student's Plan of Work.

Concentration C: Secondary Teaching

This concentration is designed for students who would like to be qualified to be secondary school teachers. Although certification for secondary teaching can be combined with any other concentration, ***this concentration is available only to students who complete secondary teacher certification prior to graduation.***

Code	Title	Credits
MAT 2010	Calculus I	4
MAT 2020	Calculus II	4
MAT 2030	Calculus III	4
MAT 2250	Elementary Linear Algebra	3
STA 2210/ MAT 6150	Probability and Statistics	4
MAT 2860/6130	Discrete Mathematics	3
MAT 5000	Fundamental Concepts of Mathematics and Proof Writing	3
MAT 5070	Elementary Analysis	4
MAT 6140	Geometry: An Axiomatic Approach	3
MAT/MAE 6200	Teaching Arithmetic, Algebra and Functions from an Advanced Perspective	3
Select one of the following two options:		4
MAT 5420 & MAT 5993	Algebra I and Writing Intensive Course in Mathematics	
MAT 6170 & MAT 5993	Algebra: Ring Theory Through Exploration, Conjecture, and Proof and Writing Intensive Course in Mathematics	
Select one of the following:		3-4
MAT 5400	Elementary Theory of Numbers	
MAT 5520	Introduction to Topology	
MAT 5600	Introduction to Analysis I	
MAT 6180	Algebra: Group Theory Through Exploration, Conjecture, and Proof	
Total Credits		42-43

Concentration D: Computer Science

Mathematics and computer science are so closely related that a great many students who major in mathematics pursue careers or graduate study in computer science. A mathematics degree, being more than just welcome in the field, is highly regarded. For students who would like to complete a double degree in mathematics and computer science or a major in mathematics with a minor in computer science, the Department offers a specially designed program. Under this concentration, students can take certain courses that satisfy both mathematics and computer science requirements simultaneously. Specifically, any two of

STA 5030, MAT 5100, MAT 5110 and MAT 5890 (The topic must be approved by the Department of Computer Science.) can be used as computer science electives, and one of , CSC 5870, CSC 6500, CSC 6620, or CSC 6991 (The topic in CSC 6991 must be approved by the Math Department Undergraduate Committee.) can be used as a mathematics elective.

This concentration is available only to students who complete a second degree or a minor in computer science prior to graduation. Students should consult the Computer Science Department concerning the requirements for the second degree or minor.

Code	Title	Credits
MAT 2010	Calculus I	4
MAT 2020	Calculus II	4
MAT 2030	Calculus III	4
MAT 2250	Elementary Linear Algebra	3
Select one of the following (STA 2210 should not be chosen if the student is doing a second degree in Computer Science, but may be chosen if the student is doing a minor in Computer Science):		3-4
MAT 5700	Introduction to Probability Theory	
STA 2210	Probability and Statistics	
BE 2100	Basic Engineering III: Probability and Statistics in Engineering	
MAT 2860	Discrete Mathematics	3
MAT 5070	Elementary Analysis	4
MAT 5100	Numerical Methods I [2]	3
MAT 5420 & MAT 5993	Algebra I and Writing Intensive Course in Mathematics	4
Select one of the following: [1]		6-8
Two additional MAT or STA courses numbered 5030 or above		
OR		
One additional MAT or STA course numbered 5030 or above, plus one of the following:		
CSC 5870	Computer Graphics I	
CSC 6500	Theory of Languages and Automata	
CSC 6620	Matrix Computation I	
CSC 6991	Topics in Computer Science (Topic must be approved by the Math Department Undergraduate Committee.)	
Total Credits		38-41

[1] Excluding MAT 5120, MAT 5130, MAT 5180, MAT 5190, MAT 5992, MAT 6130, MAT 6150, MAT 6170, MAT 6180, MAT 6200, or MAT 6210. Only one (at most) of the courses may be selected from MAT 5890 or MAT 5990. These electives are subject to advisor approval on the Student's Plan of Work.

[2] This course counts as a computer science elective as well as this math major requirement.

Mathematics (B.S.)

The courses offered by the Department of Mathematics serve several purposes; they supply the mathematical preparation necessary for students specializing in the physical, life or social sciences, in business administration, in engineering, and in education; they provide a route by which students may achieve a level of competence to do research in any of several special mathematical areas; they allow students to prepare themselves for work as mathematicians and statisticians in industry and government; and they give an opportunity to all inquisitive students to learn something about modern mathematical ideas.

Admission Requirements

Admission requirements for this program are satisfied by the general requirements for undergraduate admission (p. 22) to the University.

Undergraduates declaring a mathematics major are strongly encouraged to meet with a departmental advisor before doing so. After a student's acceptance as a major, a student should consult a Departmental advisor at least once a semester to verify progress.

Candidates must complete 120 credits in course work including satisfaction of the University General Education Requirements (p. 34) and the College of Liberal Arts and Sciences Group Requirements (p. 222), as well as the departmental major requirements cited below. All course work must be completed in accordance with the regulations of the University (p. 11) and the College (p. 221) governing undergraduate scholarship and degrees. The cumulative grade point average in mathematics (MAT) and statistics (STA) courses required for completion of a major option must be at least 2.0 and all coursework required must have a C- or better grade. A minimum of 15 credits of required coursework for the major at the 5030 level or above must be taken at Wayne State.

SPECIAL PROGRAMS

Emerging Scholars Program

The Emerging Scholars Program is a special honors program at the levels of MAT 1800, MAT 2010, and MAT 2020, that features collaborative learning through a challenging problem-solving workshop attached to the regular class. Each ESP calculus course (MAT 2010 and MAT 2020) carries four honors credits, though MAT 1800 does not offer honors credits. The program seeks dedicated, hard-working students who want to excel in mathematics. Students who place into the level below MAT 1800 are encouraged to enroll in MAT 1050 PREP as preparation for the Program. Contact the Department for further information.

'AGRADE' Program (Accelerated Graduate Enrollment)

Our AGRADE Program provides the opportunity for top students to enroll simultaneously in an undergraduate and graduate program. Students can apply a maximum of 16 credits toward both an undergraduate and a graduate degree in the student's major field. Students electing AGRADE programs may expect to complete the bachelor's and master's degrees in five years of full-time study if they take full advantage of the program. For more details about the AGRADE 'AGRADE' Program, contact one of the graduate mathematics advisors, or the Graduate Office of the College of Liberal Arts and Sciences (313-577-2516).

Mathematics Departmental Honors Program

In order to graduate with honors in mathematics, students must satisfy the following criteria:

1. Completion of the requirements for a Bachelor of Science degree.
2. Have an overall grade point average of 3.3 or above at graduation.
3. At least 12 math honors credits at the level of MAT 2020 or above, including at least 4 credits of an approved 5000 level course. See a math advisor for approved courses. MAT 4990 is not included in these 12 credits. The student must complete the course with at least a B and the honors option work with at least a B in order to obtain honors credit.
4. Completion of an HON 42XX - Honors College Seminar. See the Honors College website (http://www.honors.wayne.edu/classes.php) for information.
5. Satisfactory completion of MAT 4990 - Directed Study: Honors Program (3-6 credits). MAT 4990 involves the completion of an honors thesis in mathematics. The thesis must extend, supplement or compliment the 5000 level coursework the student has taken. It must be written under the guidance of a full-time faculty member.
6. Obtain a 3.3 average for all math classes upon completion.

Senior Rule

In their last undergraduate semester, Wayne State students with a 3.0 (or above) upper division grade point average have the option of taking a limited number of graduate credits. Graduate credit is awarded only for those courses taken in excess of baccalaureate degree requirements. Undergraduate and graduate courses combined may not exceed sixteen credits for the final semester of baccalaureate degree course work. For more information look under graduate admissions in the graduate bulletin.

REQUIREMENTS

Minimum Grade Requirements

The following grade requirements must be satisfied to obtain the degree.

- C- or better if a course is a prerequisite for another course.
- C or better average grade for all courses.

B. S. Additional Requirements

The candidate must complete the following courses in addition to choosing concentration A, B, C, or D as described below.

Code	Title	Credits
MAT 5600	Introduction to Analysis I [1]	4
Select one of the following two options:		
PHY 2170 & PHY 2171	University Physics for Scientists I and University Physics Laboratory	
PHY 2175 & PHY 2171	University Physics for Engineers I and University Physics Laboratory	
Select one of the following two options:		
PHY 2180 & PHY 2181	University Physics for Scientists II and University Physics Laboratory II	
PHY 2185 & PHY 2181	University Physics for Engineers II and University Physics Laboratory II	
Select one of the following two options:		3-4
CSC 1100 & CSC 1101	Problem Solving and Programming and Problem Solving and Programming Laboratory	
CSC 2000	Introduction to C++ Programming Language	
Select one of the following six options:		3-5
BIO 1510	Basic Life Mechanisms	
CHM 1220 & CHM 1230	General Chemistry I and General Chemistry I Laboratory	
NFS 2030 & NFS 2220	Nutrition and Health and Nutrition Laboratory	
GEL 1010 & GEL 1011	Geology: The Science of the Earth and Geology: The Science of the Earth Laboratory (If taken before Winter 2018, GEL 1010 alone will meet the requirement.)	
NFS 3230 & NFS 2220	Human Nutrition and Nutrition Laboratory	
PSY 1010	Introductory Psychology	
Total Credits		10-13

[1] A candidate for the B. S. degree in mathematics who is pursuing a second major does not have to complete MAT 5600 unless the concentration requires it. A candidate for the B. S. degree in mathematics who is pursuing a second degree must complete the course.

Concentrations

The candidate must complete one of the following concentrations in addition to requirements listed above. Note that STA courses previously designated by MAT (for example STA 2210 was previously labelled MAT 2210) are the same courses and meet the same requirements.

Concentration A: Prospective Graduate Study

This concentration is recommended for students who plan to pursue graduate study in mathematics.

Code	Title	Credits
MAT 2010	Calculus I	4
MAT 2020	Calculus II	4
MAT 2030	Calculus III	4
Select one of the following two options (MAT 2350 is preferred if available, and it is 3 credits rather than 4):		3-4
MAT 2350	Elementary Differential Equations	
MAT 2150	Differential Equations and Matrix Algebra	
MAT 2250	Elementary Linear Algebra	3
MAT 5070	Elementary Analysis	4
MAT 5420 & MAT 5993	Algebra I and Writing Intensive Course in Mathematics	4
MAT 5600	Introduction to Analysis I	4
MAT 5700	Introduction to Probability Theory	4
Select one of the following two options:		3-4
MAT 5430	Algebra II	
MAT 5610	Introduction to Analysis II	
Select one of the following six options:		3-4
MAT 5230	Complex Variables and Applications	
MAT 5430	Algebra II	
MAT 5520	Introduction to Topology	
MAT 5530	Elementary Differential Geometry and its Applications	
MAT 5610	Introduction to Analysis II	
STA 5800	Introduction to Mathematical Statistics	
Select one of the following four options:		3-4
An MAT or STA course numbered 5030 or above [1]		
CSC 6500	Theory of Languages and Automata	
CSC 6620	Matrix Computation I	
CSC 6991	Topics in Computer Science (The topic must be approved by the Math Department Undergraduate Committee.)	
Total Credits		43-47

[1] Excluding MAT 5120, MAT 5130, MAT 5180, MAT 5190, MAT 5992, MAT 6130, MAT 6150, MAT 6170, MAT 6180, MAT 6200, or MAT 6210. Only one (at most) of the courses may be selected from MAT 5890 or MAT 5990. These electives are subject to advisor approval on the Student's Plan of Work.

Concentration B: General Topics

This concentration is for students interested in a broad range of topics.

Code	Title	Credits
MAT 2010	Calculus I	4
MAT 2020	Calculus II	4
MAT 2030	Calculus III	4
Select one of the following two options (MAT 2350 is preferred if available, and it is 3 credits rather than 4):		3-4
MAT 2350	Elementary Differential Equations	
MAT 2150	Differential Equations and Matrix Algebra	
MAT 2250	Elementary Linear Algebra	3
MAT 5070	Elementary Analysis	4
MAT 5700	Introduction to Probability Theory	4
MAT 5420 & MAT 5993	Algebra I and Writing Intensive Course in Mathematics	4
Select one of the following: [1]		9-12
Three additional MAT or STA courses numbered 5030 or above [1]		
OR		
Two such courses, plus one of the following: (depending on topic)		
CSC 6500	Theory of Languages and Automata	
CSC 6580	Design and Analysis of Algorithms	
CSC 6620	Matrix Computation I	
CSC 6991	Topics in Computer Science (depending on the topic)	
Total Credits		39-43

[1] Excluding MAT 5120, MAT 5130, MAT 5180, MAT 5190, MAT 5992, MAT 6130, MAT 6150, MAT 6170, MAT 6180, MAT 6200, or MAT 6210. Only one (at most) of the courses may be selected from MAT 5890 or MAT 5990. These electives are subject to advisor approval on the Student's Plan of Work.

Concentration C: Secondary Teaching

This concentration is designed for students who would like to be qualified to be secondary school teachers. Although certification for secondary teaching can be combined with any other concentration, ***this concentration is available only to students who complete secondary teacher certification prior to graduation.***

Code	Title	Credits
MAT 2010	Calculus I	4
MAT 2020	Calculus II	4
MAT 2030	Calculus III	4
MAT 2250	Elementary Linear Algebra	3
STA 2210/ MAT 6150	Probability and Statistics	4
MAT 2860/6130	Discrete Mathematics	3
MAT 5000	Fundamental Concepts of Mathematics and Proof Writing	3
MAT 5070	Elementary Analysis	4
MAT 6140	Geometry: An Axiomatic Approach	3
MAT/MAE 6200	Teaching Arithmetic, Algebra and Functions from an Advanced Perspective	3
Select one of the following two options (MAT 5420 is preferred):		4
MAT 5420 & MAT 5993	Algebra I and Writing Intensive Course in Mathematics	
MAT 6170 & MAT 5993	Algebra: Ring Theory Through Exploration, Conjecture, and Proof and Writing Intensive Course in Mathematics (OR)	
Select one of the following four options:		3-4
MAT 5400	Elementary Theory of Numbers	

MAT 5520	Introduction to Topology	
MAT 5600	Introduction to Analysis I	
MAT 6180	Algebra: Group Theory Through Exploration, Conjecture, and Proof	
Total Credits		42-43

Concentration D: Computer Science

Mathematics and computer science are so closely related that a great many students who major in mathematics pursue careers or graduate study in computer science. A mathematics degree, being more than just welcome in the field, is highly regarded. For students who would like to complete a double degree in mathematics and computer science or a major in mathematics with a minor in computer science, the Department offers a specially designed program. Under this concentration, students can take certain courses that satisfy both mathematics and computer science requirements simultaneously. Specifically, any two of STA 5030, MAT 5100, MAT 5110 or MAT 5890 (The topic for MAT 5890 must be approved by the Department of Computer Science.) can be used as computer science electives, and one of , CSC 5870, CSC 6500, CSC 6620 or CSC 6991 can be used as a mathematics elective (The topic for CSC 6991 must be approved by the Department of Mathematics).

This concentration is available only to students who complete a second degree or a minor in computer science prior to graduation. Students should consult the Computer Science Department concerning the requirements for the second degree or minor.

Code	Title	Credits
MAT 2010	Calculus I	4
MAT 2020	Calculus II	4
MAT 2030	Calculus III	4
MAT 2250	Elementary Linear Algebra	3
Select one of the following three options (STA 2210 should not be chosen if the student is doing a second degree in Computer Science, but may be chosen if the student is doing a minor in Computer Science):		3-4
MAT 5700	Introduction to Probability Theory	
STA 2210	Probability and Statistics	
BE 2100	Basic Engineering III: Probability and Statistics in Engineering	
MAT 2860	Discrete Mathematics	3
MAT 5070	Elementary Analysis	4
MAT 5100	Numerical Methods I	3
MAT 5420 & MAT 5993	Algebra I and Writing Intensive Course in Mathematics	4
Select one of the following:		6-8
Two additional MAT or STA courses numbered above 5030 [2]		
OR		
One such course from the above, plus one of the following five options:		
CSC 5870	Computer Graphics I	
CSC 6500	Theory of Languages and Automata	
CSC 6620	Matrix Computation I	
CSC 6991	Topics in Computer Science (Topic must be approved by the Math Department Undergraduate Committee.)	
Total Credits		38-41

[1] Required for the B.S. degree for students completing a minor in computer science. It is not required for students completing a double degree in mathematics and computer science.

[2] Excluding MAT 5120, MAT 5130, MAT 5180, MAT 5190, MAT 5992, MAT 6130, MAT 6150, MAT 6170, MAT 6180, MAT 6200, or MAT 6210. Only one (at most) of the courses may be selected from MAT 5890 or MAT 5990. These electives are subject to advisor approval on the Student's Plan of Work.

Mathematics Minor

A student who is considering a minor should consult a Departmental advisor. At least 7 credit hours counted toward a minor must be taken at Wayne State, and transfer courses must carry a grade of C or better. The cumulative grade point average in mathematics (MAT) and statistics (STA) courses required for completion of the minor must be at least 2.0 and all coursework required must have a C- or better grade.

The requirements for a minor consist of:

Code	Title	Credits
MAT 2010	Calculus I	4
MAT 2020	Calculus II	4
MAT 2030	Calculus III	4
MAT 2250	Elementary Linear Algebra	3
Select one of the following options for the minor electives. The number of total credits for each option will vary from 9-12 depending on which courses are chosen to fulfill the options requirements.		9-12
Three mathematics or statistics courses numbered 5030 or above [1]		
OR		
Select one of the following, plus two mathematics or statistics courses numbered 5030 or above [1]		
MAT 2150	Differential Equations and Matrix Algebra	
MAT 2350	Elementary Differential Equations	
MAT 2860	Discrete Mathematics	
MAT 5000	Fundamental Concepts of Mathematics and Proof Writing	
STA 2210	Probability and Statistics	
BE 2100	Basic Engineering III: Probability and Statistics in Engineering	
Total Credits		24-27

[1] In both options, the courses MAT 5120, MAT 5130, MAT 5180, MAT 5190, MAT 5992, MAT 6130, MAT 6150, MAT 6170, MAT 6180 or MAT 6210 do not satisfy the mathematics minor requirement for courses numbered 5030 or above. Only one MAT 5890 or 5990 may be used to meet the requirements.

Statistics (B.S.)

The courses offered by the Department of Mathematics serve several purposes; they supply the mathematical preparation necessary for students specializing in the physical, life or social sciences, in business administration, in engineering, and in education; they provide a route by which students may achieve a level of competence to do research in any of several special mathematical areas; they allow students to prepare themselves for work as mathematicians and statisticians in industry and government; and they give an opportunity to all inquisitive students to learn something about modern mathematical ideas.

Admission Requirements

Admission requirements for this program are satisfied by the general requirements for undergraduate admission (http://bulletins.wayne.edu/undergraduate/general-information/admission) to the University.

Undergraduates declaring a mathematics major are strongly encouraged to meet with a departmental advisor before doing so. After a student's acceptance as a major, a student should consult a Departmental advisor at least once a semester to verify progress.

Students must complete 120 credits in course work including satisfaction of the University General Education Requirements (http://bulletins.wayne.edu/undergraduate/general-information/general-education) and the College of Liberal Arts and Sciences Group Requirements (http://bulletins.wayne.edu/undergraduate/college-liberal-arts-sciences/bachelors-degree-requirements), as well as the departmental major requirements cited below. All course work must be completed in accordance with the regulations of the University (http://bulletins.wayne.edu/undergraduate/general-information/academic-regulations) and the College (http://bulletins.wayne.edu/undergraduate/college-liberal-arts-sciences/academic-regulations) governing undergraduate scholarship and degrees. The cumulative grade point average in mathematics (MAT) and statistics (STA) courses required for completion of a major option must be at least 2.0 and all coursework required must have a C- or better grade. A minimum of 15 credits of required coursework for the major at the 5030 level or above must be taken at Wayne State.

SPECIAL PROGRAMS

Emerging Scholars Program

The Emerging Scholars Program is a special honors program at the levels of MAT 1800, MAT 2010, and MAT 2020, that features collaborative learning through a challenging problem-solving workshop attached t the regular class. Each ESP calculus course (MAT 2010 and MAT 2020) carries four honors credits, though MAT 1800 does not offer honors credits. The program seeks dedicated, hard-working students who want to excel in mathematics. Students who place into the level below MAT 1800 are encouraged to enroll in MAT 1050 PREP as preparation for the Program. Contact the Department for further information.

AGRADE Program (Accelerated Graduate Enrollment)

Our AGRADE Program provides the opportunity for top students to enroll simultaneously in an undergraduate and graduate program. Students can apply a maximum of 16 credits toward both an undergraduate and a graduate degree in the student's major field. Students electing AGRADE programs may expect to complete the bachelor's and master's degrees in five years of full-time study if they take full advantage of the program. For more details about the AGRADE Program, contact one of the graduate mathematics advisors, or the Graduate Office of the College of Liberal Arts and Sciences (313-577-2516).

Senior Rule

In their last undergraduate semester, Wayne State students with a 3.0 (or above) upper division grade point average have the option of taking a limited number of graduate credits. Graduate credit is awarded only for those courses taken in excess of baccalaureate degree requirements. Undergraduate and graduate courses combined may not exceed sixteen credits for the final semester of baccalaureate degree course work. For more information look under graduate admissions in the graduate bulletin.

Requirements

A minimum of 15 credits of major requirements at or above MAT or STA 5030 must be taken at Wayne State University. Note that STA courses previously designated by MAT (for example STA 2210 was previously labelled MAT 2210) are the same courses and meet the same requirements.

Minimum Grade Requirements

The following grade requirements must be satisfied to obtain the degree.

- C- or better if a course is a prerequisite for another course.
- C or better average grade for all courses.

Code	Title	Credits
Prerequisities		
MAT 2010	Calculus I	4
MAT 2020	Calculus II	4
MAT 2030	Calculus III	4
MAT 2250	Elementary Linear Algebra	3
STA 2210	Probability and Statistics	4
Core Computing Course (select one of the following)		3-4
CSC 1100 & CSC 1101	Problem Solving and Programming and Problem Solving and Programming Laboratory	
CSC 2000	Introduction to C++ Programming Language	
Core Statistics Courses		11
MAT 5700	Introduction to Probability Theory	
STA 5800	Introduction to Mathematical Statistics	
STA 6840	Linear Statistical Models [1]	
Core Statistical Computing Course		3
STA 5030	Statistical Computing and Data Analysis	
Additional Statistics Courses (select at least one of the following)		3-4
MAT 5710	Introduction to Stochastic Processes	
MAT 5770	Mathematical Models in Operations Research	
STA 5830	Applied Time Series	
MAT 5890	Special Topics in Mathematics (Topic must be approved by the Math Department) [2]	
STA 6830	Design of Experiments	
Elective Courses (Select at least two of the following, one of which must be chosen from the first 7 options, ending with MAT 5870.) [3]		6-8
Any additional course listed in "Additional Statistical Courses" [2]		
MAT 2350	Elementary Differential Equations (MAT 2350 is recommended, if available.)	
or MAT 2150	Differential Equations and Matrix Algebra	
MAT 5070	Elementary Analysis [3]	
MAT 5100	Numerical Methods I	
MAT 5410	Applied Linear Algebra	
MAT 5600	Introduction to Analysis I	
MAT 5870	Methods of Optimization	
MAT 5740	The Theory of Interest	
ECO 6100	Introduction to Econometrics	
ISM 5570	Data Mining and Analytics	
CSC 5825	Introduction to Machine Learning and Applications	
DSA 6000	Data Science and Analytics	
EER 8800	Variance and Covariance Analysis	
EER 8820	Multivariate Analysis	
EER 8860	Nonparametric, Permutation, Exact, and Robust Methods	
EER 8992	Research and Experimental Design	
IE 6210	Applied Engineering Statistics	
IE 6611	Fundamentals of Six Sigma	
PS 5630	Statistics and Data Analysis in Political Science I	
PSY 6500	Advanced Psychological Statistics	
SOC 6280	Social Statistics	
SW 9100	Social Statistics and Data Analysis	

Capstone Course		
MAT 5993	Writing Intensive Course in Mathematics [1]	
Total Credits		45-49

1 MAT 5993 will be linked with STA 6840.

2 MAT 5890 must be a statistics course, and it must be approved by the Department of Mathematics. In case of two or more different MAT 5890 courses, one will be counted as "Additional Statistics Course" and the other as an "Elective Course."

3 Strongly recommended for students interested in graduate study.

Statistics Minor

A student who is considering a minor should consult a Departmental advisor. At least 7 credit hours counted toward a minor must be taken at Wayne State. The cumulative grade point average in mathematics (MAT) and statistics (STA) courses required for completion of a minor option must be at least 2.0 and all coursework required must have a C- or better grade.

Requirements

Code	Title	Credits
Foundational mathematics		11-12
MAT 2010	Calculus I	
MAT 2020	Calculus II	
Select one of the following:		
MAT 2250	Elementary Linear Algebra	
MAT 2150	Differential Equations and Matrix Algebra	
Statistics courses		10-12
Select one of the following:		
STA 2210	Probability and Statistics	
PH 3200	Introduction to Biostatistics	
BE 2100	Basic Engineering III: Probability and Statistics in Engineering	
ECO 5100	Introductory Statistics and Econometrics	
Select at least two of the following:		
STA 5030	Statistical Computing and Data Analysis	
MAT 5700	Introduction to Probability Theory	
STA 5800	Introduction to Mathematical Statistics	
MAT 5890	Special Topics in Mathematics (Topic must be approved by the Department of Mathematics.)	
STA 5830	Applied Time Series	
STA 6830	Design of Experiments	
STA 6840	Linear Statistical Models	
TOTAL		21-24

Students should be aware that MAT 2150, 5700, 5800, 5890 and 6840 require MAT 2030 as a prerequisite.

Advanced Courses for Non-Majors

Because of the fundamental role that mathematics plays in all types of scientific and technical endeavor, the advanced course offerings of the Mathematics Department must serve a group considerably larger than those preparing for a career in mathematics exclusively.

Economics, Business Administration and Computer Science

The following basic subjects are recommended to master's degree candidates as preparation for work in their profession; they also provide a solid background for students who intend to pursue doctoral studies after completion of the master's program:

Code	Title	Credits
Numerical Methods		
MAT 5100	Numerical Methods I	3
MAT 5110	Numerical Methods II	3
Algebra		
MAT 5420	Algebra I	4
Operations Research		
MAT 5770	Mathematical Models in Operations Research	3
Probability Theory		
MAT 5700	Introduction to Probability Theory	4
Statistical Methods, Applied Time Series and Design of Experiments		
STA 5800	Introduction to Mathematical Statistics	4
STA 5830	Applied Time Series	3

Engineering and Physical Applications

The Mathematics Department has several sequences in applied mathematics that provide experienced engineers and scientists from industry and government the means to acquire and maintain the technical competence needed to work at the frontiers of their fields (for additional courses to those listed below, see the Graduate Bulletin):

Code	Title	Credits
Numerical Methods		
MAT 5100	Numerical Methods I	3
MAT 5110	Numerical Methods II	3
Applied Analysis		
MAT 5220	Partial Differential Equations	4
MAT 5230	Complex Variables and Applications	4
Probability Theory and Random Processes		
MAT 5700	Introduction to Probability Theory	4
Differential Geometry		
MAT 5530	Elementary Differential Geometry and its Applications	3

Students who feel that they eventually would like to pursue mathematical studies beyond the level of the above sequences should make every effort to take the mathematics sequences that begin with MAT 5600, and MAT 5420, respectively, and MAT 6600. These courses will help them to understand and work with abstract concepts in advanced courses.

Statistics

Students requiring only an introduction to basic statistics are referred to STA 1020 or STA 2210. Those whose work demands a good foundation in mathematical statistics are referred to MAT 5700 and STA 5800. STA 5830 is useful for students interested in applied statistics.

In addition to the interdepartmental course listed below, specialized courses in statistics are offered by individual departments:

Code	Title	Credits
ECO 5100	Introductory Statistics and Econometrics	4
ECO 6100	Introduction to Econometrics	4

MAT 5700	Introduction to Probability Theory	4
PSY 2030	Statistical Methods in Psychology	4
STA 2210	Probability and Statistics	4
STA 6830	Design of Experiments	3

Neuroscience

Neuroscience is an interdisciplinary science dedicated to discovering how the brain produces thought, emotion, and behavior on the levels of systems, cells, and molecules. The neuroscience programs are offered jointly through the Departments of Biological Sciences and Psychology

- Neuroscience (B.S.) (p. 282)
- Neuroscience Minor (p. 283)

Neuroscience (B.S.)

The goal of the Neuroscience major is to provide students with a strong background in fundamental basic sciences and exposure to the integrative nature of neuroscience to allow students to understand nervous system function from a variety of perspectives. Students will emerge with a strong foundation in basic science and applied neuroscience that will make them competitive for post-graduate studies or employment in industry, government, health, and education.

The degree program is offered jointly through the Departments of Biological Sciences and Psychology. During the freshman year, or as early as possible, students interested in neuroscience should consul one of these departments to obtain information from an undergraduate advisor.

The Neuroscience major will lead to a Bachelor of Science (B.S.) degree. Candidates must complete 120 credits in course work including satisfaction of the University General Education Requirements (p. 34) and the College of Liberal Arts and Sciences Group Requirements (p. 222), as well as the major requirements cited below. All course work must be completed in accordance with the regulations of the University (p. 11) and the College (p. 221) governing undergraduate scholarship and degrees.

Major Requirements

Major requirements are divided into three categories: (A) Basic science courses, (B) Neuroscience core courses, and (C) Electives. Elective courses are organized into two sub-categories and students must select from each; this is to ensure breadth of exposure.

Basic Science Courses

Students may double-count up to 11 - 12 credits with University General Education requirements.

Code	Title	Credits
Math		4
MAT 2010	Calculus I	
Statistics		3-4
PSY 2030	Statistical Methods in Psychology	
or STA 1020	Elementary Statistics	
or STA 2210	Probability and Statistics	
Biology		7
BIO 1510	Basic Life Mechanisms	
BIO 2600	Introduction to Cell Biology	
Chemistry		15
CHM 1220 & CHM 1230	General Chemistry I and General Chemistry I Laboratory	
CHM 1240 & CHM 1250	Organic Chemistry I and Organic Chemistry I Laboratory	
CHM 2220 & CHM 2230	Organic Chemistry II and Organic Chemistry II Laboratory	
Biochemistry		3
BIO 3100	Cellular Biochemistry	
or CHM 5600	Survey of Biochemistry	
Physics		10
Select one of the following sequences:		
Option 1:		
PHY 2130 & PHY 2131	Physics for the Life Sciences I and Physics for the Life Sciences Laboratory	
PHY 2140 & PHY 2141	Physics for the Life Sciences II and Physics for the Life Sciences Laboratory	
Option 2:		
PHY 2170 & PHY 2171	University Physics for Scientists I and University Physics Laboratory	
PHY 2180 & PHY 2181	University Physics for Scientists II and University Physics Laboratory II	
Social/Behavioral Science		4
PSY 1010	Introductory Psychology	
Total Credits		46-47

Neuroscience Core Courses

Code	Title	Credits
BIO 3200	Human Physiology	3
PSY 3330	Systems Neuroscience	3
Total Credits		6

Elective Courses

Select 18 credits, with a minimum of 6 credits from each category.

Code	Title	Credits
Behavioral and Cognitive Neuroscience		
KIN 3550	Motor Learning and Control	
NFS 4230	Macronutrient Metabolism	
NFS 5170	Nutrition, Physical Activity, and the Brain	
PHI 5230	Philosophy of Science	
PHI 5550	Philosophy of Mind	
PSY 3040	Psychology of Perception: Fundamental Processes	
PSY 3060	Psychology of Learning and Memory: Fundamental Processes	
PSY 4140	Hormones and Behavior	
PSY 4990	Directed Study and Research	
PSY 4998	Senior Thesis	
PSY 5040	Cognitive Neuroscience	
PSY 5070	Neuropharmacology	
PSY 5080	Cellular Basis of Animal Behavior	
PSY 5330	Human Neuropsychology	
PSY 5440	Developmental Neuropsychology	
Cellular and Molecular Neuroscience		
BIO 3070	Genetics	
BIO 3990	Directed Study	
BIO 4120	Comparative Physiology	
BIO 4690	Molecular and Cellular Neurobiology	
BIO 5040	Biometry	
BIO 5080	Cellular Basis of Animal Behavior	

BIO 5620	Developmental Biology
BIO 5996	Senior Research
BIO 6055	Biology of the Eye
BIO 6190	Advanced Special Topics
BIO 6690	Neurobiology I
BIO 6990	Honors Directed Study in Biology
PHY 3750	Introduction to Computational Methods
PHY 6750	Applied Computational Methods
ROC 6710	Physics in Medicine

Honors Requirements

To be recommended for an honors degree from this program, a student must maintain a cumulative g.p.a. of at least 3.30 and complete a minimum of 14 honors course credits including:

Code	Title	Credits
NEU 4991	Honors Undergraduate Research in Neuroscience	2-4
NEU 4998	Honors Thesis in Neuroscience	3
One 42XX level Honors Seminar		3
Remaining credits to be earned in honors sections or honors options within the Neuroscience major		4-6

Neuroscience Minor

Neuroscience is the interdisciplinary scientific study of the nervous system. It encompasses and combines a broad array of disciplines including biology, biochemistry, computer science, physiology, psychology, philosophy, and more. This diversity reflects the complexity of the nervous system and the challenges in understanding how nervous systems function on multiple levels underlying behavior: molecular, cellular, network, and systems. The overarching goal of the Neuroscience minor is to allow students who may be focusing their studies in a traditional discipline with certain levels of analysis to broaden their perspective and knowledge to areas outside of their primary field of study.

The minor requires the completion of a minimum of 18 credits.

Code	Title	Credits
Core Courses		6
BIO 3200	Human Physiology	
PSY 3120	Brain and Behavior	
Elective courses		12
A minimum of three additional courses taken outside of the student's major from the approved list of courses below.		
Cellular and Molecular Courses		
BIO 4120	Comparative Physiology	
BIO 4690	Molecular and Cellular Neurobiology	
BIO 5080	Cellular Basis of Animal Behavior	
BIO 5620	Developmental Biology	
BIO 6055	Biology of the Eye	
BIO 6690	Neurobiology I	
Behavioral and Cognitive Courses		
KIN 3550	Motor Learning and Control	
PSY 2080	Introduction to Drugs, Behavior, and Society	
PSY 3040	Psychology of Perception: Fundamental Processes	
PSY 3060	Psychology of Learning and Memory: Fundamental Processes	
PSY 3080	Cognitive Psychology: Fundamental Processes	
PSY 5040	Cognitive Neuroscience	
PSY 5070	Neuropharmacology	
PSY 5080	Cellular Basis of Animal Behavior	
PSY 5330	Human Neuropsychology	
PSY 5440	Developmental Neuropsychology	
Philosophy Courses		
PHI 2550	Introduction to Philosophy of Science	
PHI 2650	Philosophy of Psychology	
PHI 5230	Philosophy of Science	
PHI 5550	Philosophy of Mind	
Total Credits		18

Nutrition and Food Science

Office: 3009 Science Hall; 313-577-2500
Chairperson: Ahmad R. Heydari
Undergraduate Advisor: Deanna L. Cavanaugh
http://www.clas.wayne.edu/NFS/

The courses offered by this department are designed for students in three distinct groups:

1. those majoring in nutrition and food science who are interested in entering either the nutrition, the food science and health care professions;
2. those interested in entering the dietetics field; and
3. those majoring in nutrition and food science with the intention of entering non-technical positions in a variety of food businesses.

- Dietetics (B.S.) (p. 283)
- Dietetics (Post-Bachelor Certificate) (p. 284)
- Nutrition and Food Science (B.A.) (p. 285)
- Nutrition and Food Science (B.S.) (p. 286)
- Nutrition and Food Science Minor (p. 287)

Dietetics (B.S.)

The coordinated program in dietetics is designed to prepare registration-eligible practitioners. The special body of knowledge for the profession is the science of nutrition; skills for delivery of nutritional care encompass a number of closely-allied fields, such as food science, business, management, psychology, social sciences, economics, and communication. The strong base in science and other areas is developed through selection of relevant prerequisite and supporting cognate courses, and in the professional courses. Graduates of the program receive a Bachelor of Science in Dietetics degree and are eligible to write the national registration examination for professional certification without the need for a separate internship. The dietetics program is currently granted accreditation status by the Academy of Nutrition and Dietetics Accreditation Council for Education in Nutrition and Dietetics (ACEND), a specialized accrediting body recognized by The Council on Post-secondary Accreditation and the United States Department of Education. Students may contact ACEND via their webpage or by calling 312-899-0040 to find out the accreditation status of any dietetic program.

Admission Requirements

Admission to this program is competitive and open only to students with at least junior standing in the College after completion of the prerequisite courses cited below. Program application should be made by April 1 of the winter semester preceding the fall semester of anticipated entry into the program. Transfer and post-baccalaureate students must meet the pre-professional science requirements (see courses, below) before acceptance into the program. Transferability of credit must be verified

by the College advisors and Dietetics faculty. Course material fees cover all the additional costs relating to the professional component of the program. However, students are responsible for the costs associated with physical examination, lab coat, texts and transportation.

Code	Title	Credits
Prerequisite Courses		
ANT 1100 or SOC 1010	Introduction to Anthropology Understanding Human Society	3
BIO 1510	Basic Life Mechanisms	4
BIO 2200	Introductory Microbiology	5
BIO 2870	Anatomy and Physiology	5
CHM 1220	General Chemistry I	4
CHM 1230	General Chemistry I Laboratory	1
CHM 1240	Organic Chemistry I	4
CHM 1250	Organic Chemistry I Laboratory	1
CHM 2220	Organic Chemistry II	4
ECO 2010	Principles of Microeconomics	3-4
MGT 2530	Management of Organizational Behavior	3
NFS 2030	Nutrition and Health	3
NFS 2130	Introductory Food Science	3
NFS 2140	Introductory Food Science Laboratory	1
NFS 2220	Nutrition Laboratory	1
NFS 3230	Human Nutrition	3-4
PSY 1020	Elements of Psychology	3
STA 1020	Elementary Statistics	3
Total Credits		54-56

Candidates must complete 120 credits in course work including satisfaction of the University General Education Requirements (p. 34) and the College of Liberal Arts and Sciences Group Requirements (p. 222), as well as the departmental major requirements cited below. All course work must be completed in accordance with the regulations of the University (p. 11) and the College (p. 221) governing undergraduate scholarship and degrees.

Dietetics Sequence

Code	Title	Credits
NFS 4100	Nutrition Care Process I	2
NFS 4120	Nutrition Care Process II	2
NFS 4150	Advanced Food Science	3
NFS 4200	Dietetic Practice I	4
NFS 4210	Dietetic Practice II	10
NFS 4220	Dietetic Practice III	10
NFS 4230	Macronutrient Metabolism	3
NFS 4231	Human Nutrition: Micronutrients	3
NFS 5200	Advanced Dietetics	3
NFS 5220	Community Nutrition	2
NFS 5250	Nutrition and Disease	4
NFS 5350	Organization and Management of Food Service Systems	4
NFS 5360	Management of Nutritional Care and Services	3
NFS 6860	Controversial Issues in Clinical Nutrition and Dietetics	2
Total Credits		55

Nutrition and Food Science Honors Program

Admission: A minimum grade point average (g.p.a.) of 3.3 is required for enrollment in the Department of Nutrition and Food Science Honors program. Prospective Honors students should consult with an advisor in the Department during the freshman year. Transfer students or others with a Nutrition and Food Science g.p.a. of 3.5 may be accepted into the program without having taken the NFS 3230 Honors section.

Honors Requirements

1. Enroll in the Honors section of NFS 3230.
2. Complete at least one 4000-level Honors Program seminar.
3. Complete at least three credits in an independent research project (NFS 5990).
4. Complete at least fifteen credits in honors-designated course work, including the above. The additional course work may be obtained in this department by taking an Honors option of upper-level NFS courses, or in any other department of the College.

Students must have an overall grade point average of 3.3 and maintain an overall grade point average of at least 3.0 in the major to be awarded the Honors Degree.

Dietetics (Post-Bachelor Certificate)

This program is available to students admitted to the Coordinated Program in Dietetics (CPD) who already have an undergraduate degree. Completion of the CPD makes graduates of the program eligible to take the National Registration Examination for Dietitians, which, when successfully completed, confers the legal designation of Registered Dietitian.

Admission Requirements

Students who have received an undergraduate degree from Wayne State University should contact the department for application procedures. Students who have received an undergraduate degree from another institution must complete the Application for Undergraduate Admission and have transcripts of previous work sent directly to the Office of Admissions. Application to the CPD is separate from that to the University (CPD applications (http://www.clas.wayne.edu/NFS) should be obtained from the department, and applications are accepted only once yearly). The deadline is April 1 for program entry the following fall semester.

Students with a dietetics degree generally will have fulfilled all prerequisite course requirements; see Core Courses for the Bachelor of Science in Dietetics (p. 286) degree. Any courses in which the student had received a grade of D or below must be repeated; any dietetics courses in which the student has received a grade of C-plus or below must be repeated. Dietetics courses include food service management, medical nutrition therapy (also called clinical nutrition or diet therapy), and community nutrition. Following successful completion of all Core Courses in the undergraduate degree program, the student will elect the Core Courses for the Post-Bachelor Certificate in Dietetics.

Students who possess an undergraduate degree that is not in dietetics do not need to obtain a second undergraduate degree in dietetics, but they must complete all Core Courses for the Bachelor of Science in Dietetics, or their equivalents at other universities. Students in this category should consult with a dietetics advisor at their earliest opportunity. Following successful completion of all Core Courses in the undergraduate degree program, the student will elect the Core Courses for the Post-Bachelor Certificate in Dietetics.

Code	Title	Credits
Core Courses		
NFS 4100	Nutrition Care Process I	2
NFS 4120	Nutrition Care Process II	2
NFS 4210	Dietetic Practice II	10
NFS 4220	Dietetic Practice III	10
NFS 5200	Advanced Dietetics	3
NFS 5360	Management of Nutritional Care and Services	3
NFS 6860	Controversial Issues in Clinical Nutrition and Dietetics	2
Total Credits		32

The Dietetics Post-Bachelor Certificate is designed to be completed in 2 years.

This program will cost $18,551.97 for in-state tuition and fees and $37,538.85 for out-of-state tuition and fees if completed within normal time. There may be additional costs for living expenses. These costs were accurate at the time of posting, but may have changed.

Fewer than 10 students completed this program within normal time. Typical student debt has been withheld to preserve the confidentiality of the students.

Program meets licensure requirements in the following States: Michigan

For more information about graduation rates, loan repayment rates, and post-enrollment earnings about this institution and other postsecondary institutions please click here: **https://collegescorecard.ed.gov/**.

Nutrition and Food Science (B.A.)

This curriculum allows students to major in nutrition and food science while following a broader program in liberal arts, science, and business. The degree requires a less rigorous background in chemistry and other natural science courses than is required for the B.S. degree in this discipline. Employment opportunities include sales, customer relations, university or school food services, industrial and commercial food service systems, hospitals, nursing homes or extended care food service operations.

Admission Requirements

Admission requirements for this program are satisfied by the general requirements for undergraduate admission (p. 22) to the University. Students contemplating a major program in Nutrition and Food Science should consult with the undergraduate Departmental advisor as soon as possible, and no later than the beginning of the sophomore year. Transfer students should consult with the undergraduate departmental advisor during the semester prior to their transfer.

Candidates must complete 120 credits in course work including satisfaction of the University General Education Requirements (p. 34) and the College of Liberal Arts and Sciences Group Requirements (p. 222), as well as the departmental major requirements cited below. All course work must be completed in accordance with the regulations of the University (p. 11) and the College (p. 221) governing undergraduate scholarship and degrees.

Major Requirements

Course requirements for this bachelor's degree consist of courses offered by Wayne State University and courses available from local community colleges on a dual enrollment basis with the University. Requirements are as follows:

Code	Title	Credits
University Core Courses		
BIO 1510	Basic Life Mechanisms	4
BIO 2200	Introductory Microbiology	5
CHM 1220	General Chemistry I	4
CHM 1230	General Chemistry I Laboratory	1
CHM 1240	Organic Chemistry I	4
CHM 1250	Organic Chemistry I Laboratory	1
CHM 2220	Organic Chemistry II	4-5
or BIO 2870	Anatomy and Physiology	
ECO 2010	Principles of Microeconomics	3-4
MGT 2530	Management of Organizational Behavior	3
NFS 2030	Nutrition and Health	3
NFS 2130	Introductory Food Science	3
NFS 2140	Introductory Food Science Laboratory	1
NFS 2220	Nutrition Laboratory	1
NFS 3230	Human Nutrition	3-4
NFS 4150	Advanced Food Science	3
NFS 4160	Food Laws and Regulations	3
NFS 4230	Macronutrient Metabolism	3
NFS 4231	Human Nutrition: Micronutrients	3
NFS 5230	Nutrition and Metabolism	3
NFS 5250	Nutrition and Disease	4
NFS 5350	Organization and Management of Food Service Systems	4
NFS 6850	Controversial Issues	2
PSY 1020	Elements of Psychology	3
STA 1020	Elementary Statistics	3
Total Credits		71-74

Community College Courses

Candidates for the degree may complete a course in one of the following areas: sanitation, food management, quantity food purchasing, and quantity food production. As many as four credits from these courses can be applied to the degree either by transfer from previous community college work or by concurrent enrollment with a local community college. For an approved list of courses from area institutions, consult the Department.

Nutrition and Food Science Honors Program

Admission: A minimum grade point average (g.p.a.) of 3.3 is required for enrollment in the Department of Nutrition and Food Science Honors program. Prospective Honors students should consult with an advisor in the Department during the freshman year. Transfer students or others with a Nutrition and Food Science g.p.a. of 3.5 may be accepted into the program without having taken the NFS 3230 Honors section.

Honors Requirements

1. Enroll in the Honors section of NFS 3230.
2. Complete at least one 4000-level Honors Program seminar.
3. Complete at least three credits in an independent research project (NFS 5990).
4. Complete at least fifteen credits in honors-designated course work, including the above. The additional course work may be obtained in this department by taking an Honors option of upper-level NFS courses, or in any other department of the College.

Students must have an overall grade point average of 3.3 and maintain an overall grade point average of at least 3.0 in the major to be awarded the Honors Degree.

'AGRADE' Program (Accelerated Graduate Enrollment)

Qualified seniors in Nutrition and Food Science having not less than a 3.5 g.p.a. may enroll simultaneously in the undergraduate and graduate program and apply a maximum of sixteen credits towards both the bachelor's and master's degrees in nutrition and food science. Students may apply for the program as soon as they complete ninety credits towards the undergraduate degree. Graduate courses taken as part of the 'AGRADE' Program are assessed undergraduate rate tuition. Contact the Department for further information.

Nutrition and Food Science (B.S.)

This program is designed for science-oriented students who are interested in the various food and nutrition or other healthcare related professions. Students are prepared for these professions by the integration of chemistry and the biological sciences with courses in food science and nutrition. Employment opportunities may be found in various phases of food processing, research and development, public health, and community education, as well as in positions in state and federal regulatory agencies dealing with food products. The program provides good preparation for medical, dental or allied health school application. Students should consult an advisor for program planning.

Admission Requirements

Admission requirements for this program are satisfied by the general requirements for undergraduate admission (p. 22) to the University. Students contemplating a major program in Nutrition and Food Science should consult with the undergraduate Departmental advisor as soon as possible, and no later than the beginning of the sophomore year. Transfer students should consult with the undergraduate departmental advisor during the semester prior to their transfer.

Candidates must complete 120 credits in course work including satisfaction of the University General Education Requirements (p. 34) and the College of Liberal Arts and Sciences Group Requirements (p. 222), as well as the departmental major requirements cited below. All course work must be completed in accordance with the regulations of the University (p. 11) and the College (p. 221) governing undergraduate scholarship and degrees.

Major Requirements

Students must complete seventy-six credits in science courses of which at least thirty-five must be in nutrition and food science. Core Courses are as follows:

Code	Title	Credits
University Core Courses		
BIO 1510	Basic Life Mechanisms	4
BIO 2200	Introductory Microbiology	5
BIO 2870	Anatomy and Physiology	5
CHM 1220	General Chemistry I	4
CHM 1230	General Chemistry I Laboratory	1
CHM 1240	Organic Chemistry I	4
CHM 1250	Organic Chemistry I Laboratory	1
CHM 2220	Organic Chemistry II	4
CHM 2230	Organic Chemistry II Laboratory	1
CHM 2280	General Chemistry II: Analytical Chemistry (pre-med/dental students only)	3
CHM 2290	General Chemistry II: Analytical Chemistry Laboratory (pre-med/dental students only)	2
MAT 1800	Elementary Functions	4
NFS 2030	Nutrition and Health	3
NFS 2130	Introductory Food Science	3
NFS 2140	Introductory Food Science Laboratory	1
NFS 2220	Nutrition Laboratory	1
NFS 3230	Human Nutrition	3-4
NFS 4160	Food Laws and Regulations	3
NFS 4230	Macronutrient Metabolism	3
NFS 4231	Human Nutrition: Micronutrients	3
NFS 5130	Food Chemistry	3
NFS 5140	Laboratory Techniques in Nutrition and Food Science	3
NFS 5250	Nutrition and Disease	4
NFS 6850	Controversial Issues	2
Additional three credits in upper division NFS courses		3
PHY 2130	Physics for the Life Sciences I	4
PHY 2131	Physics for the Life Sciences Laboratory	1
PHY 2140	Physics for the Life Sciences II	4
PHY 2141	Physics for the Life Sciences Laboratory	1
STA 1020	Elementary Statistics	3
Total Credits		86-87

Nutrition and Food Science Honors Program

Admission: A minimum grade point average (g.p.a.) of 3.3 is required for enrollment in the Department of Nutrition and Food Science Honors program. Prospective Honors students should consult with an advisor in the Department during the freshman year. Transfer students or others with a Nutrition and Food Science g.p.a. of 3.5 may be accepted into the program without having taken the NFS 3230 Honors section.

Honors Requirements

1. Enroll in the Honors section of NFS 3230.
2. Complete at least one 4000-level Honors Program seminar.
3. Complete at least three credits in an independent research project (NFS 5990).
4. Complete at least fifteen credits in honors-designated course work, including the above. The additional course work may be obtained in this department by taking an Honors option of upper-level NFS courses, or in any other department of the College.

Students must have an overall grade point average of 3.3 and maintain an overall grade point average of at least 3.0 in the major to be awarded the Honors Degree.

'AGRADE' Program (Accelerated Graduate Enrollment)

Qualified seniors in Nutrition and Food Science having not less than a 3.5 g.p.a. may enroll simultaneously in the undergraduate and graduate program and apply a maximum of sixteen credits towards both the bachelor's and master's degrees in nutrition and food science. Students may apply for the program as soon as they complete ninety credits towards the undergraduate degree. Graduate courses taken as part of the

'AGRADE' Program are assessed undergraduate rate tuition. Contact the Department for further information.

Nutrition and Food Science Minor

Completion of the minor in Nutrition and Food Science requires a minimum of eighteen credits in Nutrition and Food Science courses as follows:

Code	Title	Credits
NFS 2030	Nutrition and Health	3
NFS 2130	Introductory Food Science	3
NFS 2140	Introductory Food Science Laboratory	1
NFS 2220	Nutrition Laboratory	1
NFS 3230	Human Nutrition	3-4
Additonal seven credits in upper division NFS courses.		7
Total Credits		18-19

Peace and Conflict Studies

Office: 2320 Faculty/Administration Building; 313-577-3453
Director: Frederic S. Pearson
Undergraduate Advisor: Gayle McCreedy
http://clas.wayne.edu/CPCS

The Peace and Conflict Studies (PACS) Co-Major Program integrates a variety of practical courses and interdisciplinary research to allow students to combine their own majors with training, study, and experience in peace studies and the emerging field of conflict resolution, at the inter-personal, national and international levels. The curriculum deals with the most fundamental of human concerns: how to manage or resolve conflict constructively. Students are introduced to the causes of human conflict and violence, as well as approaches to conflict management ranging from diplomacy, law and negotiation, to mediation and arbitration. Questions are raised concerning the issues of globalization, social justice, non-violence, ethnicity, race, and culture.

- Peace and Conflict Studies (Co-Major) (p. 287)
- Peace and Conflict Studies Minor (p. 289)

Peace and Conflict Studies (Co-Major)

The Peace and Conflict Studies (PCS) Co-Major Program integrates a variety of practical courses and interdisciplinary research to allow students to combine their own majors with training, study, and experience in peace studies and the emerging field of conflict resolution, at the inter-personal, national and international levels. The curriculum deals with the most fundamental of human concerns: how to manage or resolve conflict constructively. Students are introduced to the causes of human conflict and violence, as well as approaches to conflict management ranging from diplomacy, law and negotiation, to mediation and arbitration. Questions are raised concerning the issues of globalization, social justice, non-violence, ethnicity, race, and culture.

The PCS curriculum provides a framework useful for careers in legal, educational, governmental, business, labor, social service, scientific and health professions, as well as in graduate and professional education. Students are offered opportunity for hands-on experience, and are encouraged to build adaptive skills useful for the future. Courses in this curriculum may also count toward the completion of University General Education Requirements (p. 34), as well as College and Major Requirements.

The program is designed around a set of core courses, which introduce the student to the field, including various approaches to peace studies and the application of conflict management methods, and finally which assess the student's overall progress in a senior research seminar project. Five courses in conflicted-related elective courses are required, but students must have a minimum of three courses that are counting towards the PCS co-major elective requirements and are not fulfilling any other major, minor, or co-major requirements. Courses may be chosen generally from the list of elective courses, or may be focused in one of seven specialty areas:

- race, gender and religion
- peace and conflict theory
- human rights
- international issues of peace and conflict studies
- peace and conflict studies in the United States
- peace studies in human development
- dispute resolution

Students are encouraged to participate in the development of their curriculum; in addition to selecting from a wide variety of suggested PCS electives, co-majors are able to choose other elective courses with prior consent of the Director. Students are also encouraged to participate in the Peace and Justice Student Learning Community, which organizes speakers and other special educational programs and events on various subjects, and to explore credit for internships and study abroad.

Core Requirements

Code	Title	Credits
PCS 2000	Introduction to Peace and Conflict Studies	3
PCS 6000	Senior Seminar in Peace and Conflict Studies	3
Select two of the following (additional courses can count as electives):		6-8
AFS 2210	Black Social and Political Thought	
ANT 3100	World Cultures	
ECO 5300	International Trade	
HIS 5130/7130	American Foreign Relations Since 1933	
PCS 2010/ PS 2830/ HIS 2520	Topics in Peace and Conflict Studies [1]	
PCS/PHY 2020/ HIS 2510/ PS 2440	Science, Technology, and War	
PCS 2050/ PS 2550/ SOC 2050/ HIS 2530	The Study of Non-Violence	
PCS 5999	Special Readings/Research	
PHI 2330	Introduction to Social and Political Philosophy	
PS 2510	Introduction to Political Ideologies	
PS 2810	World Politics	
PS/AFS 5740	Ethnicity: The Politics of Conflict and Cooperation	
PSY 2600	Psychology of Social Behavior	
SOC 2300	Social Inequality	
Select one of the following: [1]		3-4
PCS 5000	Dispute Resolution	
PCS 5010	Community or International Internship	
PCS 5100	Advanced Special Topics	

Five courses in conflicted-related elective courses [2]	15-20
Total Credits	30-38

1 May be taken only once for core requirement, and repeated for electives.

2 Students must have a minimum of three courses that are counting towards the PCS co-major elective requirements and are not fulfilling any other major, minor, or co-major requirements. Permissible elective courses are listed in the WSU course bulletin, or can be approved in consultation with the program director.

Electives

The University offers a large number of conflict- and peace-related courses in its various Schools and Colleges that are suitable electives for this program. The student is encouraged to select courses that introduce them to a variety of cultural practices regarding the management of conflict. The following are appropriate for the co-major or minor; because new courses are created by faculty on a rolling basis, students are encouraged to consult with the director or the undergraduate advisor about any courses not on the following list which may be included in their major.

Race, Gender and Religion

Code	Title	Credits
AFS/SOC 2600	Race and Racism in America	3
AFS/HIS 3230/5235/ AFS 5230	The Civil Rights Movement	3
AFS 3420/ PS 3820	Pan Africanism: Politics of the Black Diaspora	4
AFS/SOC 5570	Race Relations in Urban Society	3
ANT 3530	Native Americans	3
ANT 5240	Cross Cultural Study of Gender	3
ANT 5260	The African Religious Experience: A Triple Heritage	3
COM 4250	Reporting Race, Gender, and Culture	3
CRJ/GSW 2750	Diversity Issues in Criminal Justice	3
HIS 2605/ GSW 2600	History of Women, Gender and Sexuality in the Modern World	3
HIS/AFS 3150	African American History II: 1865-1968	3-4
HIS 5200	Women, Gender, and Sexuality in US History	3
HIS 5480/7480	Nazi Germany	3-4
NE/HIS 3010	Jewish History from the Bible to 1492	4
NE/GSW 3520	Women and Gender in Middle East History	3
NE 6500	Religion and Society	3
PS/AFS 5030	African American Politics	4
PSY 3250	Psychology of Gender	3
PSY/AFS 5700	The Psychology of African Americans	4
SOC 4460	Women in Society	3
SOC/AFS 5570	Race Relations in Urban Society	3

Peace and Conflict Theory

Code	Title	Credits
ANT 5140	Biology and Culture	3
COM 3400	Theories of Communication	3
CRJ 3800	Criminological Theories	4
GER/SPA/FRE/ ITA 2700	Anguish and Commitment: European Existentialist Literature	3-4
PHI 2320	Introduction to Ethics	3
PHI 3270	Foundations of Law	3
PS 2460	Policy and Rationality: Dilemmas of Choice	4
PS 3510	Law, Authority and Rebellion	4
PS 3530	Great Political Thinkers I	4
PS 6830	Civil War and Conflict Processes	3
PSY 3040	Psychology of Perception: Fundamental Processes	3
PSY/LIN 3080	Cognitive Psychology: Fundamental Processes	3
PSY 3200	Motivation, Feeling and Emotion	3
PSY 3310	Abnormal Psychology	4
SOC 5810	Law in Human Society	3
SOC 5870	Violence in the Family	3

Human Rights and Social Justice

Code	Title	Credits
AFS/SOC 2600	Race and Racism in America	3
AFS/SOC 5580	Law and the African American Experience	4
COM 2160	Campaigns and Social Movements	3
CRJ 3200	Police and Society	4
ECO 5490/ HIS 5290	American Labor History	4
LAS/HIS 2430	History of Latino/as in the United States	3
PHI 3270	Foundations of Law	3
PS 2420	Ethics and Politics of Public Policy	4
PS 3520	Justice	4
PS 5120	Constitutional Rights and Liberties	4
PS 5850	Human Rights	4
SOC/AFS 2600	Race and Racism in America	3
SOC 5700	Seminar in Social Inequality	3
SW 3110	Diversity, Oppression and Social Justice	3
US/UP/AFS/ ECO/PS/SOC 6455	Discrimination and Fair Housing	3

International Issues in Peace and Conflict Studies

Code	Title	Credits
AFS 3610	Interdisciplinary Perspectives on Foreign Culture: The Africans	4
ANT 3100	World Cultures	3
ANT 3540	Cultures and Societies of Latin America	3
ANT/NE 3550	Arab Society in Transition	3
ECO 5300	International Trade	4
ECO 5310	International Finance	4
GPH/PS 2700/ ENG 2670/ HIS 2700	Introduction to Canadian Studies	3
HIS 1400	The World Since 1945	4
HIS 1610	African Civilizations Since 1800	3-4
HIS/LAS 1910	Latin America from Independence to the Present	3
HIS 3320	Twentieth Century Middle East	3
HIS 5530/7530	History of World War I and II: A Social and Political History of Two World Wars	4
JPN 4550	Japanese Culture and Society I	4
JPN 4560	Japanese Culture and Society II	4
NE 2040/ HIS 1810	The Modern Middle East	3
NE 5000/ HIS 5960	Globalization, Social History and Gender in the Arabian Gulf	3

PS/HIS/GPH 2700/ENG 2670	Introduction to Canadian Studies	3
PS 2710	Introduction to Comparative Politics	4
PS 3710	Politics of Western Europe	4
PS 3715	Politics of Central and Eastern Europe	4
PS 3735	Politics of Latin America	4
PS 3770	Politics of East Asia	4
PS 3795	Latin America in World Affairs	4
PS 3830	War	4
PS 3835	Middle East Conflict	4
PS 3991	Directed Study: WSU-Salford Exchange	3-9
PS 4725	Globalization and Politics	4
PS 4810	Foreign Policies of Major Powers	4
PS 5820	International Law	4
SLA/ARM/GER/ POL/RUS 3410	New Soil, Old Roots: The Immigrant Experience	3
SLA 3710	Russian and East European Film	3

Peace and Conflict Studies in the United States

Code	Title	Credits
AFS/GSW 5110	Black Women in America	3
ECO 5480/6480	Economics of Work	3
GPH/UP 5650	Metropolitan Detroit	3
HIS 5200	Women, Gender, and Sexuality in US History	3
HIS 5220	The Changing Shape of Ethnic America: World War I to the Present	3-4
HIS 5290/ ECO 5490	American Labor History	4
PS 3840	American Foreign Policy and Administration	4
PS/AFS 5030	African American Politics	4
SOC/AFS 5570	Race Relations in Urban Society	3
SOC 6750	Sociology of Urban Health	3
US 2000/ SOC 2500/ GPH 2000/HIS/ PS 2000	Introduction to Urban Studies	4

Peace Studies In Human Development

Code	Title	Credits
ANT/LIN 3310	Language and Culture	3
ANT 5140	Biology and Culture	3
ANT/LIN 5320	Language and Societies	3
CRJ 3350/ SOC 3840	Corrections	4
CRJ 5500	Child Abuse and Neglect	3
PS 5560	Biopolitics	4
PSY 2400	Developmental Psychology	4
PSY 3310	Abnormal Psychology	4
PSY 3350	Psychology of Personality	3
SOC 2203	Social Psychology	3
SOC 5400	The Family	3
SOC 5870	Violence in the Family	3
SW/ELE/PSY 6010	Family Centered Collaboration in Early Childhood Intervention and Special Education	3-4

Dispute Resolution

(assumes completion of PCS 5000)

Code	Title	Credits
COM 2200	Interpersonal Communication	3
COM 3250	Introduction to Organizational Communication	3
COM 6220	Dispute Resolution and Communication Technology	3
COM 6350	Communication, Culture, and Conflict	3
CRJ 3110	Domestic Violence and Criminal Justice	4
ELR 4500	Applied Labor Studies	3
PS 3030	Political Interest Groups	4
PS 3040	The Legislative Process	4
PS 5830	International Conflict and Management	4
PS 6070	Labor and American Politics	3
PSY 2100	Psychology and the Workplace	3
SW 1010	Introduction to Social Work and Social Welfare	3

Peace and Conflict Studies Minor

To receive a Minor in Peace and Conflict Studies (PACS), a student must complete:

Code	Title	Credits
PCS 2000	Introduction to Peace and Conflict Studies	3
PCS 6000	Senior Seminar in Peace and Conflict Studies	3
Select one course from each of the other core groups listed on the co-major page		6-7
Two conflict-related elective courses. Permissible elective courses are listed in the WSU course bulletin, or can be approved in consultation with the program director."		6-8
Total Credits		18-21

Among their elective requirements, students must have a minimum of one course that is counting towards the PCS minor requirements and not fulfilling any other major, minor, or co-major requirement. Electives may be selected from the approved elective course list, or from other curricula, with approval of the Peace and Conflict Studies Director.

Philosophy

Office: 5057 Woodward, 12th floor; 313-577-2474
Interim Chairperson: Eric Hiddleston
Undergraduate Advisor: Royanne Smith
Director of Undergraduate Studies: Joshua Wilburn
http://clasweb.clas.wayne.edu/Philosophy

Courses in this department are designed with four aims:

1. They contribute to the liberal education of any student, whatever his/her predominant interest, by their emphasis on clear and cogent thought, by consideration of the interrelations of fact and value, by training in logic and the methodology of inquiry, and by a study and analysis of major philosophical outlooks.
2. They supply a minor and cognate courses to students majoring in other Departments who wish to study their major subject in its wider philosophical implications.
3. They give Departmental majors a wide and intensive training in philosophy. The major appeals to those who wish to take graduate work in philosophy and to those who wish a broad background from which to study and understand the emergence and conflict of ideas in relation to contemporary problems.
4. They supply a relevant major and minor for students who plan a career in such fields as the law or the ministry.

- Philosophy (B.A.) (p. 290)
- Health Care Ethics Minor (p. 291)
- Humanities Minor (p. 291)
- Medical Humanities Minor (p. 292)
- Philosophy Minor (p. 292)
- Pre-Law Minor (p. 292)

Philosophy (B.A.)

Philosophy contributes to the liberal education of any student, whatever his/her predominant interest, by its emphasis on clear and cogent thought, by consideration of the interrelations of fact and value, by training in logic and the methodology of inquiry, and by a study and analysis of major philosophical outlooks.

Admission Requirements

Admission requirements for this program are satisfied by the general requirements for undergraduate admission (p. 22) to the University. Students who are planning to major in philosophy or who simply wish advice or consultation concerning course offerings and programs should see the Director of Undergraduate Studies in Philosophy.

Candidates must complete 120 credits in course work including satisfaction of the University General Education Requirements (p. 34) and the College of Liberal Arts and Sciences Group Requirements (p. 222), as well as the departmental major requirements cited below. All course work must be completed in accordance with the regulations of the University (p. 11) and the College (p. 221) governing undergraduate scholarship and degrees.

Major Requirements

Students planning to major in Philosophy should consult the department's undergraduate advisor as early as possible. Students may satisfy the major in either of two ways: with a traditional concentration or with a concentration in law, ethics and justice.

CORE COURSE (3-4 credits). All students (of either concentration) must take one of the following logic courses:

Code	Title	Credits
Select one of the following:		3-4
PHI 2850	Introductory Symbolic Logic	
PHI 2860	Honors Introductory Symbolic Logic	
PHI 5050	Advanced Symbolic Logic	

Traditional Concentration

This option is primarily intended for those students whose interests in Philosophy are broad and general, and for those who are considering doing graduate-level work in Philosophy. A candidate pursuing this concentration must complete a minimum of ten courses in Philosophy, including the Logic Core Course (see above) as well as the following courses and selections from course groups (found in Philosophy Courses (PHI):

Code	Title	Credits
1. Two courses in the History of Philosophy group (one in ancient philosophy, and one in modern philosophy):		
Ancient Philosophy (select one of the following):		
PHI 2100	Ancient Greek Philosophy	
PHI 2140	Ancient Greek Medicine and Psychology	
PHI 5400	The Presocratics and Sophists	
PHI 5410	Plato	
PHI 5420	Aristotle	
Modern Philosophy (select one of the following):		
PHI 2110	Seventeenth and Eighteenth Century Philosophy	
PHI 5450	British Empiricism	
2. Select one course in the Value Theory Group		
PHI 2320	Introduction to Ethics	
PHI 2330	Introduction to Social and Political Philosophy	
PHI 2360	Feminist Philosophy	
PHI 2390	Philosophy of Human Rights	
PHI 3270	Foundations of Law	
PHI 3700	Philosophy of Art	
PHI 5240	Special Topics in Social and Political Philosophy	
PHI 5260	Philosophy of Sex and Gender	
PHI 5270	Philosophy of Law	
PHI 5280	History of Ethics	
PHI 5300	Foundations of Ethics	
3. Select one course in the Philosophical Problems Group		
PHI 2400	Introduction to the Philosophy of Religion	
PHI 2550	Introduction to Philosophy of Science	
PHI 2650	Philosophy of Psychology	
PHI 3500	Theory of Knowledge	
PHI 3550	Metaphysics	
PHI 3600	Space, Time, and the Philosophy of Physics	
PHI 5230	Philosophy of Science	
PHI 5500	Topics in Metaphysics	
PHI 5530	Topics in Epistemology	
PHI 5550	Philosophy of Mind	
PHI 5570	Philosophy of Language	
PHI 5630	Twentieth Century Analytic Philosophy I	
4. Select four 5000-level courses (other than 5990 or 5993), which must total at least 14 credits		

In addition, a major in philosophy must register for PHI 5993 (Writing Intensive Course in Philosophy) in association with some 3000-or 5000-level Philosophy class; this course is not counted toward the ten-course minimum.

NOTE: Courses taken at the 5000-level which are used to satisfy any of requirements 1-3 may also be counted toward requirement 4, though the ten-course minimum for the major must still be met. PHI 5990 (Directed Reading) will not count toward the 14 credits at the 5000-level, except under special circumstances, and with the permission of the supervising instructor and the Director of Undergraduate Studies.

Law, Ethics and Justice Concentration

This option is intended for students who have a special interest in ethical issues, social justice, philosophy of law, or pre-law. A candidate pursuing this concentration must complete a minimum of ten courses in Philosophy, including the Core Courses (see above) as well as the following courses and selections from course groups:

Code	Title	Credits
1. One course in the History of Philosophy group		
PHI 2100	Ancient Greek Philosophy	
PHI 2110	Seventeenth and Eighteenth Century Philosophy	
PHI 2140	Ancient Greek Medicine and Psychology	
PHI 5400	The Presocratics and Sophists	
PHI 5410	Plato	

PHI 5420	Aristotle
PHI 5450	British Empiricism
2. Select one course from the Philosophical Problems Group	
PHI 2400	Introduction to the Philosophy of Religion
PHI 2550	Introduction to Philosophy of Science
PHI 2650	Philosophy of Psychology
PHI 3500	Theory of Knowledge
PHI 3550	Metaphysics
PHI 3600	Space, Time, and the Philosophy of Physics
PHI 5230	Philosophy of Science
PHI 5500	Topics in Metaphysics
PHI 5530	Topics in Epistemology
PHI 5550	Philosophy of Mind
PHI 5570	Philosophy of Language
PHI 5630	Twentieth Century Analytic Philosophy I
3. PHI 2320 - (PL) Introduction to Ethics	
4. One course in Philosophy of Law, Politics, or Human Rights	
PHI 2330	Introduction to Social and Political Philosophy
PHI 2390	Philosophy of Human Rights
PHI 3270	Foundations of Law
PHI 5270	Philosophy of Law
PHI 5240	Special Topics in Social and Political Philosophy
Or other approved course in social and political philosophy, philosophy of law, ore human rights. [1]	
5. One course in Applied Ethics	
PHI 1100	Contemporary Moral Issues
PHI 1110	Ethical Issues in Health Care
PHI 1120	Professional Ethics
PHI 1130	Environmental Ethics
PHI 1500	Race, Sex, and Religion
PHI 2360	Feminist Philosophy
PHI 5260	Philosophy of Sex and Gender
6. One advanced course in Ethics [2]	
PHI 5280	History of Ethics
PHI 5300	Foundations of Ethics
7. Two total 5000-level courses in the Theory of Value, from the following: 5240, 5260, 5270, 5280, and 5300 (choice for requirement 6 and any other 5000-level choices from above requirements count here too)	
8. Four total 5000-level courses (choices for requirements 6 and 7, and any other 5000-level choices from above requirements count here too)	

In addition, a major in philosophy must register for PHI 5993 (Writing Intensive Course in Philosophy), in association with some 3000-or 5000-level Philosophy class; this course is not counted toward the ten-course minimum.

NOTE: Courses taken at the 5000-level which are used to satisfy any of requirements 1, 2, 4, 5, and 6 may also be counted toward requirement 8), though the ten-course minimum must still be met. PHI 5990 (Directed Reading) will not count toward the 14 credits at the 5000-level, except under special circumstances, and with the permission of the supervising instructor and the Director of Undergraduate Studies.

Philosophy Honors

Admission to the honors program in philosophy is determined on the basis of the student's overall record. The student will normally be required to have

1. a minimum grade point average of 3.3,
2. credit in at least three philosophy courses, and
3. a 'B' or better average in philosophy courses.

To remain in the philosophy honors program, the student must maintain a 'B' or better average in philosophy courses.

Honors Requirements: To receive an Honors Degree, the candidate must complete the course requirements for the regular major. In addition the candidate must complete a total of at least fifteen credits of Honors-designated coursework, including:

1. PHI 4890 during the candidate's senior year;
2. one 4000-level seminar offered through the Honors College;
3. at least six additional credits of Honors-designated coursework in Philosophy (other than PHI 4890); and
4. additional credits of Honors-designated coursework as needed to reach the fifteen-credit minimum.

At graduation, the overall grade point average must be at least 3.3. If at any point the student fails to maintain Honors standards, his or her credits will automatically be counted towards the regular degree major. Students interested in becoming candidates for the Honors Degree in philosophy should consult the Department's undergraduate advisor as soon as possible.

Health Care Ethics Minor

This option is primarily intended for students interested in ethics and moral issues related to medicine, health care, and science, or for students intending to pursue a career in a health care field. A candidate pursuing this minor must complete a minimum of five courses selected from the philosophy course listings (https://bulletins.wayne.edu/undergraduate/college-liberal-arts-sciences/philosophy/#coursestext), including:

Code	Title	Credits
1. One course in critical thinking or symbolic logic:		
PHI 1050	Critical Thinking	
PHI 1070	Reasoning and Decision	
PHI 2850	Introductory Symbolic Logic	
PHI 2860	Honors Introductory Symbolic Logic	
PHI 5050	Advanced Symbolic Logic	
2. The following three courses:		
PHI 1110	Ethical Issues in Health Care	
PHI 2320	Introduction to Ethics	
One additional course from the Theory of Value course group (or PHI 1200: Life and Death)		
3. At least one Philosophy course at the 5000-level (other than 5993) *		

* PHI 5050 taken in compliance with requirement 1 may be used to satisfy requirement 3, though the five course minimum must still be met. Students wishing to do this must consult the instructor.

Humanities Minor

A candidate pursuing a Humanities Minor must complete a minimum of six courses and 18 total credits in the departments of Philosophy, English, and Classical and Modern Languages, Literatures, and Cultures (CMLLC), including the following:

Code	Title	Credits
Two PHI courses (at least one of which must be at the 2000 level or above)		6
Two ENG courses (at least one of which must be at the 5000 level or above)		6
Two courses from CMLLC at the 2000 level or above *		6
Total Credits		18

* View a list of courses offered by the CMLLC department. (p.)

Note: No more than two courses for the Humanities Minor may be double-counted toward a Major in Philosophy, English, or a CMLLC program.

Medical Humanities Minor

A candidate pursuing a Medical Humanities Minor must complete a minimum of eighteen (18) total credits.

Note: No more than two courses for the Medical Humanities Minor may be double-counted toward a Major in Philosophy, English, or a CMLLC program.

Code	Title	Credits
Required Core Courses		6
PHI 1110	Ethical Issues in Health Care	
ANT/GLS/PH 3410	Global Health	
or HIS 3440	American Medicine in the Twentieth Century	
Humanistic Approaches to Science and Medicine Courses		6
ARB 5700	Medical Arabic	
SPA 3050	Spanish for the Health Care Profession	
CLA 1230	Word Origins: English Words from Greek and Latin	
ENG 2420	Literature and Science	
ENG 3050	Technical Communication I: Reports	
ENG 3060	Technical Communication II: Presentations	
ENG 3200	Grant Writing	
ENG 3250	Technical and Professional Editing	
ENG 5830	Introduction to Technical and Professional Writing Practices	
PHI 1200	Life and Death	
PHI 2140	Ancient Greek Medicine and Psychology	
PHI 2550	Introduction to Philosophy of Science	
PHI 2650	Philosophy of Psychology	
POL 3060	Medical Polish I	
POL 3061	Medical Polish II	
Ethics and Cultural Diversity Course		3
AFS 2210	Black Social and Political Thought	
AFS 2390	Introduction to African-American Literature: Literature and Writing	
AFS 2600	Race and Racism in America	
ENG 3470	Survey of African-American Literature	
ENG 5030	Topics in Women's Studies	
ENG 5035	Topics in Gender and Sexuality Studies	
ENG 5480	Topics in African American Literature	
ENG 5595	World Literature in English	
GLS 2900	Intercultural Competence for a Global World	
GSW 2500	Humanities Perspectives on Gender, Sexuality, and Women	
PHI 1100	Contemporary Moral Issues	
PHI 1500	Race, Sex, and Religion	
PHI 2320	Introduction to Ethics	
PHI 2360	Feminist Philosophy	
PHI 2390	Philosophy of Human Rights	
Elective course (maximum 3 credits)		3
Any course listed above		
Any course in PHI at the 2000 level or above		
Any course in ENG at the 3000 level or above		
Any course in CMLLC at the 2020 level or above *		
ANT 3400	Introduction to Medical Anthropology	
ANT 5140	Biology and Culture	
ANT 5180	Forensic Anthropology	
HIS 5407	The Scientific Revolution	
NFS 2030	Nutrition and Health	
PH 2100	Introduction to Public Health	
SOC 2210	Sociology of Health and Medicine	
SOC 4205	Seminar in Medical Sociology	
Total Credits		18

* View a list of courses offered by the CMLLC department. (p.)

Philosophy Minor

This option is primarily intended for those students whose interests in philosophy are broad and general. A candidate pursuing this minor must complete a minimum of five courses selected from the philosophy course listings (p.), including:

Code	Title	Credits
1. One course in critical thinking or symbolic logic:		
PHI 1050	Critical Thinking	
PHI 1070	Reasoning and Decision	
PHI 2850	Introductory Symbolic Logic	
PHI 2860	Honors Introductory Symbolic Logic	
PHI 5050	Advanced Symbolic Logic	
2. One course at the 2000- or 3000-level (other than PHI 2850 or 2860)		
3. One course at the 5000-level or above (other than PHI 5993, 5990)		
4. Two additional courses of the candidate's choice (other than 5993 or 5990) *		

* PHI 5050 taken in compliance with requirement 1 may be used to satisfy requirement 4, though the five course minimum must still be met. Students wishing to do this must consult the instructor.

Pre-Law Minor

This option is primarily intended for students intending on going to Law School, or for students especially interested in issues related to philosophy of law. A candidate pursuing this minor must complete a minimum of five courses selected from the philosophy course listings (https://bulletins.wayne.edu/undergraduate/college-liberal-arts-sciences/philosophy/#coursestext), including:

Code	Title	Credits
1. One course in critical thinking or symbolic logic:		
PHI 1050	Critical Thinking	
PHI 1070	Reasoning and Decision	
PHI 2850	Introductory Symbolic Logic	
PHI 2860	Honors Introductory Symbolic Logic	
PHI 5050	Advanced Symbolic Logic	
2. Two of the following courses:		
PHI 2320	Introduction to Ethics	
PHI 2330	Introduction to Social and Political Philosophy	
PHI 2390	Philosophy of Human Rights	
PHI 3270	Foundations of Law	
PHI 5240	Special Topics in Social and Political Philosophy	
PHI 5270	Philosophy of Law	
3. One of the following courses:		
PHI 1100	Contemporary Moral Issues	
PHI 1110	Ethical Issues in Health Care	
PHI 1120	Professional Ethics	
PHI 1130	Environmental Ethics	
PHI 1500	Race, Sex, and Religion	
PHI 2360	Feminist Philosophy	
PHI 5260	Philosophy of Sex and Gender	
4. One additional course at the 5000-level or above (other than 5993 or 5990) *		

Footnotes

* 5000-level courses taken to satisfy any of requirements 1, 2, or 3 may be used to satisfy requirement 4, though the five course minimum must still be met. Students wishing to do this must consult the instructor.

Physics and Astronomy

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Chairperson: David Cinabro
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Physics is the science that describes the behavior of the physical world. It is the most basic of all sciences and as such is responsible for the interpretation of fundamental physical processes which support many other scientific disciplines. The study of physics involves many of the significant ideas that have shaped Western civilization, and the excitement of ongoing scientific challenges. Currently, physicists conduct research into the basic laws of nature and also make use of these ideas to design and develop new technologies. Thus, training in physics offers a variety of opportunities. Careers are possible in research laboratories, in academic teaching capacities, in hospitals, the military, power plants, museums, patent law firms, computer companies, and in a host of other areas.

Faculty members in this Department are devoted to teaching and research and hold national and international reputations in their areas of specialization, which include: high energy physics, nuclear physics, atomic physics, the physics of condensed matter, material science, mathematical physics, applied physics, and quantum field theory. They organize and participate in conferences, publish extensively, and receive numerous outside grants, contracts and fellowships. In addition, they engage in many collaborations with scientists in both foreign and American universities and national laboratories.

Physics Colloquium: The department colloquium is normally held Thursday afternoons. Advanced undergraduates are invited to attend.

- Astronomy (B.A.) (p. 293)
- Astronomy Minor (p. 294)
- Biomedical Physics (B.S.) (p. 294)
- Biomedical Physics Minor (p. 295)
- Physics (B.A.) (p. 296)
- Physics (B.S.) (p. 296)
- Physics Minor (p. 298)

Courses for Non-Science Majors

The Department of Physics and Astronomy offers several courses designed primarily for non-science majors for which only minimal high school mathematics preparation is needed. The courses are:

Code	Title	Credits
AST 2010	Descriptive Astronomy	4
PHY 1020	Conceptual Physics: The Basic Science	4
PHY 3100	The Sounds of Music	4

The laboratories connected with AST 2010, PHY 1020, and PHY 3100 satisfy the natural science laboratory group requirements.

Astronomy (B.A.)

This program is intended to provide students with foundational knowledge in astronomy and space science. Students will graduate with strong scientific preparation and communication skills and will have a wide range of career options including entry-level jobs as well as graduate education in law, business, education, social and physical sciences. In short, these students will have all the traditional options of liberal arts majors with the added advantage of a unique science background.

Admission Requirements

Admission requirements for this program are satisfied by the general requirements for undergraduate admission (p. 22) to the University.

Candidates must complete 120 credits in course work including satisfaction of the University General Education Requirements (p. 34) and the College of Liberal Arts and Sciences Group Requirements (p. 222), as well as the Departmental major requirements cited below. All course work must be completed in accordance with the regulations of the University (p. 11) and the College (p. 221) governing undergraduate scholarship and degrees.

Note: In some cases the requirements of a specific program will increase the number of credits above 120.

The University requirement for a writing intensive (WI) course in the major field is satisfied by:

1. PHY 6850 for the Bachelor of Science and Bachelor of Arts degrees in Physics
2. AST 4200 for the Bachelor of Arts in Astronomy degree
3. PHY 6780 for Bachelor of Science in Biomedical Physics degree

It should be noted in each case that the requirement is satisfied by an additional writing project beyond the normal course requirements.

Students must receive a grade of C- or better in all physics and/or astronomy courses. A cumulative grade point average of 2.0 or higher for all course work is required for graduation.

Students should consult with the Undergraduate Academic Advisor in the Physics Research Building for more detailed information concerning the various degrees and options outlined below.

Additionally, student must complete:

Code	Title	Credits
AST 2010	Descriptive Astronomy	4
AST 2011	Descriptive Astronomy Laboratory	1
PHY 2170	University Physics for Scientists I [1]	4
PHY 2171	University Physics Laboratory	1
PHY 2180	University Physics for Scientists II [1]	4
PHY 2181	University Physics Laboratory II	1
PHY 3300	Introductory Modern Physics	3
PHY 3310	Introductory Modern Physics Laboratory	2
PHY 5340 & PHY 5341	Optics and Optics Laboratory	5
AST 4100	Astronomical Techniques	3
AST 4200	Astronomical Laboratory	2
AST 4300	Planetary Astronomy and Space Science	3
AST 5010	Astrophysics and Stellar Astronomy	3
AST 5100	Galaxies and the Universe	3
MAT 2010	Calculus I	4
MAT 2020	Calculus II	4
PHY 3700	Mathematics for Biomedical Physics	4
Total Credits		51

[1] A student may present credits in PHY 2130, PHY 2140 or equivalent, in lieu of PHY 2170 and PHY 2180, with the consent of the Departmental Undergraduate advisor.

Electives to complete credits required for the degree may include any courses from the College of Liberal Arts and Sciences.

Astronomy Minor

The Department of Physics and Astronomy offers a minor in astronomy to qualified students. The requirement for a minor consists of the following:

Code	Title	Credits
PHY 2170	University Physics for Scientists I [1]	4
or PHY 2130	Physics for the Life Sciences I	
PHY 2171	University Physics Laboratory [1]	1
or PHY 2131	Physics for the Life Sciences Laboratory	
PHY 2180	University Physics for Scientists II [1]	4
or PHY 2140	Physics for the Life Sciences II	
PHY 2181	University Physics Laboratory II [1]	1
or PHY 2141	Physics for the Life Sciences Laboratory	
PHY 3300	Introductory Modern Physics [3]	3
PHY 3310	Introductory Modern Physics Laboratory	2
Select three courses from the following:		9
AST 4100	Astronomical Techniques [2]	
AST 4300	Planetary Astronomy and Space Science	
AST 5010	Astrophysics and Stellar Astronomy	
AST 5100	Galaxies and the Universe	
Total Credits		24

[1] If students take PHY 2130 and PHY 2140 then they must earn a cumulative 3.0 g.p.a. in those courses to be able to take PHY 3300.

[2] If students choose to take AST 4100 as one of the elective upper-level astronomy classes, then, AST 4200 is a co-requisite.

[3] MAT 2010 and MAT 2020 are prerequisites for this course.

Many science and/or engineering majors already take the required calculus and basic physics sequence as part of their studies, however, non-science majors are unlikely to be able to complete the minor in under 24 credits. Students should consult the departmental Undergraduate Academic Advisor for approval of the minor prior to undertaking the program.

Biomedical Physics (B.S.)

Biomedical Physics deals with applications of physics to questions of biology and medicine. It is an interdisciplinary program, combining courses from physics, biology and medicine designed to train students to use quantitative, physical science inspired approaches to problems of the life sciences. Graduates of this program will be prepared for careers or graduate studies in biophysics, medicine, biomedical engineering, medical physics or any other field requiring physical and technological approaches to medical or biological questions.

Admission Requirements

Admission requirements for this program are satisfied by the general requirements for undergraduate admission (p. 22) to the University. In addition, a student must possess an overall g.p.a of at least 3.0 for the following four courses to become a B.S. candidate in Biomedical Physics:

Code	Title	Credits
Select one of the following:		10
Option 1		
PHY 2130 & PHY 2131	Physics for the Life Sciences I and Physics for the Life Sciences Laboratory	
PHY 2140 & PHY 2141	Physics for the Life Sciences II and Physics for the Life Sciences Laboratory	
Option 2		
PHY 2170 & PHY 2171	University Physics for Scientists I and University Physics Laboratory	
PHY 2180 & PHY 2181	University Physics for Scientists II and University Physics Laboratory II	
MAT 2010	Calculus I	4
MAT 2020	Calculus II	4

Candidates must complete at least 123 credits in course work including satisfaction of the University General Education Requirements (p. 34) and the College of Liberal Arts and Sciences Group Requirements (p. 222), as well as the Departmental major requirements cited below. All course work must be completed in accordance with the regulations of the University (p. 11) and the College (p. 221) governing undergraduate scholarship and degrees. All students will be required to maintain an overall grade point average of 'C' (2.0) for all degree work elected, as well as a grade point average of at least 2.5 in all major and cognate requirements.

Major Requirements

B.S. candidates must take a minimum of 41 credits including:

Code	Title	Credits
PHY 2130	Physics for the Life Sciences I	4
or PHY 2170	University Physics for Scientists I	
PHY 2131	Physics for the Life Sciences Laboratory	1
or PHY 2171	University Physics Laboratory	
PHY 2140	Physics for the Life Sciences II	4
or PHY 2180	University Physics for Scientists II	
PHY 2141	Physics for the Life Sciences Laboratory	1
or PHY 2181	University Physics Laboratory II	
PHY 3700	Mathematics for Biomedical Physics	4
PHY 3750	Introduction to Computational Methods	1
PHY 4700	Introduction to Biomedical Physics	4
PHY 5340 & PHY 5341	Optics and Optics Laboratory	5
PHY 5620 & PHY 5621	Electronics and Electrical Measurements and Electronics and Electrical Measurements Laboratory	5
PHY 5750	Biological Physics	4
PHY 6750	Applied Computational Methods	2
PHY 6780	Research Methods in Biomedical Physics	3
ROC 6710	Physics in Medicine	3
Total Credits		41

Cognate Requirements

B.S. candidates in Biomedical Physics must take:

Code	Title	Credits
MAT 2010	Calculus I	4
MAT 2020	Calculus II	4
CHM 1220 & CHM 1230	General Chemistry I and General Chemistry I Laboratory	5
CHM 1240 & CHM 1250	Organic Chemistry I and Organic Chemistry I Laboratory	5
Select one of the following:		5
CHM 2280 & CHM 2290	General Chemistry II: Analytical Chemistry and General Chemistry II: Analytical Chemistry Laboratory	
CHM 2220 & CHM 2230	Organic Chemistry II and Organic Chemistry II Laboratory	
BIO 1500	Basic Life Diversity (or approved BIO elective)	4
BIO 1510	Basic Life Mechanisms	4
Total Credits		31

Some of these courses can be waived with the approval of the Biomedical Physics Advisor if a proof of proficiency is provided or a higher level course is substituted.

Science Electives

B.S. candidates in Biomedical Physics must take a total of four additional science, mathematics, engineering, or computer science elective classes beyond the requirements listed above. At least one of these classes must come from the field of biology. These four classes can be chosen from the following list:

Code	Title	Credits
BIO 2200	Introductory Microbiology	5
BIO 2600	Introduction to Cell Biology	3
BIO 2870	Anatomy and Physiology	5
BIO 3070	Genetics	5
BIO 3100	Cellular Biochemistry	3
BIO 3200	Human Physiology	3
BIO 4120	Comparative Physiology	4
BME 5010	Quantitative Physiology	4
Select one of the following:		5
CHM 2220 & CHM 2230	Organic Chemistry II and Organic Chemistry II Laboratory	
CHM 2280 & CHM 2290	General Chemistry II: Analytical Chemistry and General Chemistry II: Analytical Chemistry Laboratory	
CHM 5400	Biological Physical Chemistry	4
CHM 5420	Physical Chemistry I	3
CHM 5600	Survey of Biochemistry	3
CHM 6620	Metabolism: Pathways and Regulation	3
CHM 6640	Molecular Biology	3
CSC 1100 & CSC 1101	Problem Solving and Programming and Problem Solving and Programming Laboratory	4
CSC 2000	Introduction to C++ Programming Language	3
CSC 2110 & CSC 2111	Computer Science I and Computer Science I Lab	4
MAT 2030	Calculus III	4
MAT 2150	Differential Equations and Matrix Algebra	4
STA 2210	Probability and Statistics	4
MAT 2350	Elementary Differential Equations	3
MAT 5100	Numerical Methods I	3
MAT 5700	Introduction to Probability Theory	4
NFS 2030	Nutrition and Health	3
PHY 3300 & PHY 3310	Introductory Modern Physics and Introductory Modern Physics Laboratory	5
PHY 5200	Classical Mechanics I	3
PHY 6400	Quantum Physics I	3
PHY 6500	Thermodynamics and Statistical Physics	4
PHY 6600	Electromagnetic Fields I	3
ROC 5010	Introduction to Radiological Physics	4

Classes not on this list can be taken if prior approval from the undergraduate Physics student advisor has been obtained.

Biomedical Physics Minor

The Department also offers a minor in Biomedical Physics. The requirements for a minor consist of:

Code	Title	Credits
PHY 2130	Physics for the Life Sciences I	4
or PHY 2170	University Physics for Scientists I	
PHY 2131	Physics for the Life Sciences Laboratory	1
or PHY 2171	University Physics Laboratory	
PHY 2140	Physics for the Life Sciences II	4
or PHY 2180	University Physics for Scientists II	
PHY 2141	Physics for the Life Sciences Laboratory	1
or PHY 2181	University Physics Laboratory II	
PHY 3700	Mathematics for Biomedical Physics (approval required to substitute MAT 2030)	4
or MAT 2030	Calculus III	
PHY 4700	Introduction to Biomedical Physics	4
Select a minimum of six credits from the following:		6

PHY 3750/6750	Introduction to Computational Methods
PHY 5340 & PHY 5341	Optics and Optics Laboratory [1]
PHY 5750	Biological Physics
PHY 6780	Research Methods in Biomedical Physics
Total Credits	24

[1] Or PHY 5620 and PHY 5621.

The students should consult the departmental Undergraduate Academic Advisor for approval of the minor prior to undertaking the program.

Physics (B.A.)

This program is intended to meet the needs of several kinds of students:

1. students wishing to major in physics who have transferred to Wayne State University after one or two years at a community college, but whose background in physics and mathematics does not complement the content, level, or scheduling of remaining course requirements well enough to permit completion of the Bachelor of Science degree curriculum in a reasonable time;
2. students who wish to pursue a general course of education in the sciences with physics as an area of concentration. Those who undertake such a program are sometimes interested in the study of physics as an integrated part of a broad educational background;
3. students who decide relatively late in their college careers (for example, during the sophomore year) that they wish to major in physics.

It should be emphasized that completion of the Bachelor of Arts program instead of the Bachelor of Science program does not preclude later graduate work in physics. In most cases, it will mean that the student will spend part or all of his/her first year in graduate school making up deficiencies in his or her physics and mathematics background. Generally speaking, such deficiencies may be determined by consulting the Suggested Course Sequence of the Bachelor of Science degree in physics.

Admission Requirements

Admission requirements for this program are satisfied by the general requirements for undergraduate admission (p. 22) to the University.

Candidates must complete 120 credits in course work including satisfaction of the University General Education Requirements (p. 34) and the College of Liberal Arts and Sciences Group Requirements (p. 222), as well as the Departmental major requirements cited below. All course work must be completed in accordance with the regulations of the University (p. 11) and the College (p. 221) governing undergraduate scholarship and degrees.

Note: In some cases the requirements of a specific program will increase the number of credits above 120.

The University requirement for a writing intensive (WI) course in the major field is satisfied by:

1. PHY 6850 for the Bachelor of Science and Bachelor of Arts degrees in Physics
2. AST 4200 for the Bachelor of Arts in Astronomy degree
3. PHY 6780 for Bachelor of Science in Biomedical Physics degree

It should be noted in each case that the requirement is satisfied by an additional writing project beyond the normal course requirements.

Students must receive a grade of C- or better in all physics and/or astronomy courses. A cumulative grade point average of 2.0 or higher for all course work is required for graduation.

Students should consult with the Undergraduate Academic Advisor in the Physics Research Building for more detailed information concerning the various degrees and options outlined below.

Additionally, student must complete:

Code	Title	Credits
PHY 2170	University Physics for Scientists I [1]	4
PHY 2171	University Physics Laboratory	1
PHY 2180	University Physics for Scientists II [1]	4
PHY 2181	University Physics Laboratory II	1
PHY 3300	Introductory Modern Physics	3
PHY 3310	Introductory Modern Physics Laboratory	2
PHY 5100	Methods of Theoretical Physics I	3
PHY 5200	Classical Mechanics I	3
PHY 5340 & PHY 5341	Optics and Optics Laboratory	5
PHY 5620 & PHY 5621	Electronics and Electrical Measurements and Electronics and Electrical Measurements Laboratory	5
PHY 6850	Modern Physics Laboratory	2
Select one of the following:		3-4
PHY 6400	Quantum Physics I	
PHY 6500	Thermodynamics and Statistical Physics	
PHY 6600	Electromagnetic Fields I	
MAT 2010	Calculus I	4
MAT 2020	Calculus II	4
MAT 2030	Calculus III	4
MAT 2150	Differential Equations and Matrix Algebra	4
CSC 2000	Introduction to C++ Programming Language	3
CHM 1220 & CHM 1230	General Chemistry I and General Chemistry I Laboratory	5
Total Credits		60-61

[1] A student may present credits in PHY 2130, PHY 2140 or equivalent, in lieu of PHY 2170 and PHY 2180, with the consent of the Departmental Undergraduate advisor.

Physics and Biomedical Physics Honors Program

Undergraduate majors, in both Physics and Biomedical Physics, with a minimum grade point average of 3.3 can enroll in the Honors program of the Department of Physics and Astronomy. Prospective students should consult the departmental Undergraduate Academic Advisor as soon as they declare their major to learn about specific requirements.

Physics (B.S.)

The Bachelor of Science program offers several options. Each option is designed to meet the needs of a particular group of students although each is flexible enough to avoid limiting the student to a particular future program. Students take a logically-developed sequence of physics courses on a broad range of topics. The introductory sequence uses calculus, and later courses investigate single areas in greater depth, using more advanced mathematics. In advanced laboratory courses the

physics student uses sophisticated equipment and sometimes has an opportunity to join a research team.

Admission Requirements

Admission requirements for this program are satisfied by the general requirements for undergraduate admission (p. 22) to the University.

Candidates must complete 120 credits in course work including satisfaction of the University General Education Requirements (p. 34) and the College of Liberal Arts and Sciences Group Requirements (p. 222), as well as the Departmental major requirements cited below. All course work must be completed in accordance with the regulations of the University (p. 11) and the College (p. 221) governing undergraduate scholarship and degrees.

Note: In some cases the requirements of a specific program will increase the number of credits above 120.

The University requirement for a writing intensive (WI) course in the major field is satisfied by:

1. PHY 6850 for the Bachelor of Science and Bachelor of Arts degrees in Physics
2. AST 4200 for the Bachelor of Arts in Astronomy degree
3. PHY 6780 for Bachelor of Science in Biomedical Physics degree

It should be noted in each case that the requirement is satisfied by an additional writing project beyond the normal course requirements.

Students must receive a grade of C- or better in all physics and/or astronomy courses. A cumulative grade point average of 2.0 or higher for all course work is required for graduation.

Students should consult with the Undergraduate Academic Advisor in the Physics Research Building for more detailed information concerning the various degrees and options outlined below.

Basic Requirements for All Options

Code	Title	Credits
PHY 2170	University Physics for Scientists I	4
PHY 2171	University Physics Laboratory	1
PHY 2180	University Physics for Scientists II	4
PHY 2181	University Physics Laboratory II	1
PHY 3300	Introductory Modern Physics	3
PHY 3310	Introductory Modern Physics Laboratory	2
PHY 5100	Methods of Theoretical Physics I	3
PHY 5200	Classical Mechanics I	3
MAT 2010	Calculus I	4
MAT 2020	Calculus II	4
MAT 2030	Calculus III	4
MAT 2150	Differential Equations and Matrix Algebra	4
CSC 2000	Introduction to C++ Programming Language	3
CHM 1220	General Chemistry I	4
CHM 1230	General Chemistry I Laboratory	1
Satisfaction of all University and College group and competency requirements		
Total Credits		45

A minimum grade of C- is required in prerequisite courses.

Advanced Physics Option

This option is primarily for students who intend to go on to graduate study in physics. It also satisfies the requirements of industrial and governmental employers who demand a traditional education in physics.

Additional requirements beyond the Basic Requirements listed above:

Code	Title	Credits
PHY 5210	Classical Mechanics II	3
PHY 6400	Quantum Physics I	3
PHY 6410	Quantum Physics II	3
PHY 6500	Thermodynamics and Statistical Physics	4
PHY 6600	Electromagnetic Fields I	3
PHY 6610	Electromagnetic Fields II	3
PHY 6850	Modern Physics Laboratory	2
PHY 6860	Computational Physics	3
Select one of the following:		5
PHY 5340 & PHY 5341	Optics and Optics Laboratory	
PHY 5620 & PHY 5621	Electronics and Electrical Measurements and Electronics and Electrical Measurements Laboratory	
Total Credits		29

Astrophysics Option

This option is primarily for students who intend to go on to graduate study in astronomy and astrophysics.

Additional requirements beyond the Basic Requirements listed above:

Code	Title	Credits
AST 2010 & AST 2011	Descriptive Astronomy and Descriptive Astronomy Laboratory	5
AST 4100	Astronomical Techniques	3
AST 4200	Astronomical Laboratory	2
AST 4300	Planetary Astronomy and Space Science	3
AST 5010	Astrophysics and Stellar Astronomy	3
AST 5100	Galaxies and the Universe	3
PHY 6400	Quantum Physics I	3
PHY 6500	Thermodynamics and Statistical Physics	4
PHY 6600	Electromagnetic Fields I	3
PHY 6850	Modern Physics Laboratory	2
Select one of the following:		5
PHY 5340 & PHY 5341	Optics and Optics Laboratory	
PHY 5620 & PHY 5621	Electronics and Electrical Measurements and Electronics and Electrical Measurements Laboratory	
Total Credits		36

Engineering and Applied Physics Option

The B.S. degree in the Engineering and Applied Physics option is intended to provide the interdisciplinary training that is required for a variety of applied fields, while still providing an understanding of the physical foundations of those fields. Programs are designed to combine fundamental physics courses with engineering and other science courses, in order to prepare students for careers in industry (particularly engineering fields) as well as graduate programs in these areas. There is sufficient flexibility in this program that a set of courses can be designed

to match a student's interest in such areas as semiconductor physics, material physics, computational physics, biophysics, optics and laser physics, and other areas. Students interested in enriching their education with on-the-job experience may apply for internships with cooperating research laboratories by contacting the departmental undergraduate advisor.

Additional requirements beyond the Basic Requirements listed above:

Code	Title	Credits
PHY 6400	Quantum Physics I	3
PHY 6500	Thermodynamics and Statistical Physics	4
PHY 6600	Electromagnetic Fields I	3
PHY 5340 & PHY 5341	Optics and Optics Laboratory	5
PHY 5620 & PHY 5621	Electronics and Electrical Measurements and Electronics and Electrical Measurements Laboratory	5
PHY 6850	Modern Physics Laboratory	2
Select at least twelve additonal credits in engineering, physics, mathematics, or other science/technical courses		12
Total Credits		34

Physics and Biomedical Physics Honors Program

Undergraduate majors, in both Physics and Biomedical Physics, with a minimum grade point average of 3.3 can enroll in the Honors program of the Department of Physics and Astronomy. Prospective students should consult the departmental Undergraduate Academic Advisor as soon as they declare their major to learn about specific requirements.

Physics Minor

The Department of Physics and Astronomy offers a minor in physics to qualified students from other Departments. The requirement for a minor consists of:

Code	Title	Credits
Select one of the following groups:		10
Group 1		
PHY 2170	University Physics for Scientists I	
PHY 2171	University Physics Laboratory	
PHY 2180	University Physics for Scientists II	
PHY 2181	University Physics Laboratory II	
Group 2		
PHY 2130	Physics for the Life Sciences I	
PHY 2131	Physics for the Life Sciences Laboratory	
PHY 2140	Physics for the Life Sciences II	
PHY 2141	Physics for the Life Sciences Laboratory	
PHY 3300 & PHY 3310	Introductory Modern Physics and Introductory Modern Physics Laboratory	5
Select at least three other physics courses at the 3000 level or above		9-12
Total Credits		24-27

Students should consult the departmental Undergraduate Academic Advisor for approval of the minor prior to undertaking the program.

AGRADE Programs (Accelerated Graduate Enrollment)

Physics AGRADE Program

Seniors in Physics and Astronomy, with a minimum grade point average of 3.5, may enroll simultaneously in the undergraduate and graduate programs. These students can apply up to fifteen credits towards both the bachelors and masters degrees in physics. Contact Undergraduate Academic Advisor for further information.

Biomedical Physics-BME AGRADE Program

Outstanding seniors in Biomedical Physics, who have completed at least 90 credits and have an overall GPA of at least 3.5, and major biomedical physics classes GPA at least 3.6, can apply to enter the cross-college AGRADE program between the Biomedical Physics undergraduate program (College of Liberals Arts and Sciences) and Biomedical Engineering (BME) Master's programs (College of Engineering). The AGRADE program allows students to apply up to 15 credits of selected graduate courses, taken as an undergraduate, towards a Master's degree in Biomedical Engineering. The Physics courses that can be counted towards MS-BME degree include PHY 5340/PHY 5341 or PHY 5620/PHY 5621, PHY 5750, and PHY 6780. This enables students to complete an undergraduate degree in Biomedical Physics and a graduate degree in Biomedical Engineering in just 5 years of full-time study. For more details, please contact the undergraduate Physics advisor in the Department of Physics and Astronomy, or the graduate advisor in the Department of Biomedical Engineering.

Interdisciplinary Physics-ECE AGRADE Program

Outstanding seniors in Physics (both Engineering and Applied Physics option and Advanced Physics option), who have completed at least 90 credits and have an overall GPA of at least 3.5, and major physics classes GPA at least 3.6, can apply to enter the cross-college AGRADE program between the Physics undergraduate program (College of Liberals Arts and Sciences) and Electrical Engineering (EE) Master's programs (College of Engineering). The AGRADE program allows students to apply up to 12 credits of selected graduate courses, taken as an undergraduate, towards a Master's degree in Electrical Engineering. The Physics courses that can be counted towards MS-EE degree include PHY 5340/PHY 5341, PHY 5620/PHY 5621, and PHY 5100. This enables students to complete an undergraduate degree in Physics and a graduate degree in Electrical Engineering in just 5 years of full-time study. For more details, please contact the undergraduate Physics advisor in the Department of Physics and Astronomy, or the graduate advisor in the Department of Electrical and Computer Engineering.

Political Science

Office: 2040 Faculty/Administration Building; 313-577-2630
Chairperson: Daniel S. Geller
Undergraduate Academic advisor: Ryan Ferrante
http://www.clas.wayne.edu/politicalscience/

The study of political science is focused on understanding the nature and problems of government and the role of politics in contemporary society. This is accomplished through systematic exploration of the structure and processes of government at different levels and across nations, through study of individual and collective political behavior, and through analyses of policy problems and the processes through which public policies are formulated and administered. Political science contributes to the goals of general education by promoting civic literacy and cultivating an awareness of the opportunities and obligations of citizenship at local, state, and national levels.

The field of political science is of special importance to students whose career goals include:

1. Professions likely to involve participation in public affairs, including law, engineering, criminal justice, public health, social welfare and education.
2. Administrative or executive positions in government at the local, state or federal levels.
3. Teaching of political and social science at the secondary, junior college and university levels.
4. Positions in the diplomatic service and in foreign and overseas programs of the U.S. Government and of other organizations doing business abroad.
5. Leadership, research, and staff roles in citizen organizations, political parties, campaign organizations, economic and social interest groups, municipal research bureaus, and nonprofit organizations.
6. Positions associated with mass communications, such as radio, television and newspapers, where basic understanding of public affairs and governmental policies and organization is required for accurate reporting and analysis.
7. Positions in private enterprise where knowledge of governmental processes is essential, such as in industrial relations, legislative liaison and public relations.

- Political Science (B.A.) (p. 299)
- Public Affairs (B.P.A.) (p. 301)
- Political Science Minor (p. 303)

Political Science (B.A.)

Political science majors are offered the opportunity to develop programs of study that complement their particular interests and career goals. The major may be used to structure a broad general program or a highly concentrated and specialized one. The following requirements pertain to all B.A. majors.

Admission Requirements

Admission requirements for this program are satisfied by the general requirements for undergraduate admission (p. 22) to the University. To enter the Bachelor of Arts degree program in political science, students must declare their major in accordance with the rules of the College.

Candidates must complete 120 credits in course work including satisfaction of the University General Education Requirements (p. 34) and the College of Liberal Arts and Sciences Group Requirements (p. 222), as well as the Departmental major requirements cited below. All course work must be completed in accordance with the regulations of the University (p. 11) and the College (p. 221) governing undergraduate scholarship and degrees. Students wishing to apply transfer credits toward the major should consult the political science undergraduate advisor regarding departmental policies and restrictions on the use of these credits.

Major Requirements

A political science major must satisfactorily complete at least thirty-two credits of course work in the Department beyond PS 1010 or 1030. This course work must include:

Code	Title	Credits
PS 1010	American Government	4
or PS 1030	The American Governmental System	
Select one of the following:		3-4
PS 2410	Introduction to Public Policy	
PS 2510	Introduction to Political Ideologies	
PS 2710	Introduction to Comparative Politics	
PS 2810	World Politics	
PS 2820	Introduction to Peace and Conflict Studies	
Select at least four courses at the 3000 level or higher, of which at least one must be at the 4000 level or higher [1]		12-16
A Writing Intensive (WI) course in political science that is taken after having previously completed at least two Political Science courses at the 3000 level or higher [2]		3-4

1 PS 5993 does not count toward fulfillment of this requirement.

2 with co-registration in PS 5993. Any political science course at the 3000-level or higher, except PS 5630 and PS 6640, may, with the permission of the instructor, be used to fulfill this requirement.

To satisfy the Writing Intensive requirement, the student must demonstrate proficiency in writing on disciplinary subject matter in a form and style that conform to disciplinary standards. To use a course for this purpose, the student must obtain approval from the instructor and follow the guidelines established by the instructor to demonstrate the required proficiency. The student must also co-register in PS 5993, a zero-credit course for which the student will receive a grade of Satisfactory (S) upon certification by the instructor that the writing requirement has been fulfilled. Note that completion of the WI course has the following prerequisites: a) completion of the Intermediate Composition (IC or ICN) requirement and b) the completion of at least two Political Science courses at the 3000 level or higher.

Recommended Course: It is recommended that majors include PS 3600, Methods of Political Inquiry, in their programs of study.

Political Science Fields of Study

In developing their specific programs of study, students should consult with the political science undergraduate advisor. They may pursue a general program or choose to concentrate in a particular field or subfield. The following are fields in which a student may choose to concentrate. Other areas of concentration and more specialized programs may be developed in consultation with the undergraduate advisor. It is not mandatory that a student have an area of concentration; the listings are only suggestive.

American Government and Politics

Public opinion, electoral politics, and participation in the political process; the role of political parties and interest groups and of the mass media; the workings of Congress, the Presidency, and other governmental institutions. Courses relevant to this area of concentration include (but are not limited to):

Code	Title	Credits
PS 3010	Public Opinion and Political Behavior	4
PS 3020	Political Parties and Elections	4
PS 3025	Political Campaigns in America	4
PS 3030	Political Interest Groups	4
PS 3040	The Legislative Process	4
PS 3050	Politics of the American Presidency	4
PS 3060	State Government and Politics	4
PS 3070	Michigan Politics	4
PS 3080	Gender and Politics	4
PS 3430	Bureaucracy and Public Policy	4
PS 5030	African American Politics	4
PS 5040	Religion and Politics	4

PS 5050	Mass Media and Politics	3
PS 6010	Political Psychology	3
PS 6020	Intergovernmental Relations and American Federalism	3
PS 6050	Class, Race, and Politics in America	3
PS 6070	Labor and American Politics	3

Public Law/Legal Studies

Judicial interpretation of the Constitution; civil liberties and constitutional rights; the law as a profession; law enforcement and the operations of the judicial system; international dimensions of law. Relevant courses include:

Code	Title	Credits
PS 3100	American Legal Systems and Processes	4
PS 5110	Constitutional Law	4
PS 5120	Constitutional Rights and Liberties	4
PS 5820	International Law	4
PS 5850	Human Rights	4
PS 6120	Administrative Law and Regulatory Politics	3
PS 6870	United States Foreign Relations Law	4

Urban Politics and Policy

Governing cities in a federal system; economic conditions and urban problems; local policy-making and the constraints under which policy is made. Relevant courses include:

Code	Title	Credits
PS 2000	Introduction to Urban Studies	4
PS 2240	Introduction to Urban Politics and Policy	4
PS 3250	Detroit Politics: Continuity and Change in City and Suburbs	4
PS 6020	Intergovernmental Relations and American Federalism	3
PS 6455	Discrimination and Fair Housing	3

Public Administration

The nature and functions of public agencies; techniques of public management; public bureaucracy in its social setting. Relevant courses include:

Code	Title	Credits
PS 2310	Introduction to Public Administration	4
PS 2992	Political Science Internship	1-4
PS 3430	Bureaucracy and Public Policy	4
PS 6120	Administrative Law and Regulatory Politics	3
PS 6700	Financial Management for Nonprofit Organizations	3

Public Policy

How policy is formulated, decided, implemented, and evaluated; moral and political standards for making policy. Relevant courses include:

Code	Title	Credits
PS 2410	Introduction to Public Policy	4
PS 2420	Ethics and Politics of Public Policy	4
PS 2460	Policy and Rationality: Dilemmas of Choice	4
PS 2992	Political Science Internship	1-4
PS 3430	Bureaucracy and Public Policy	4
PS 3450	Environmental Policy and Politics	4
PS 3840	American Foreign Policy and Administration	4
PS 4460	Techniques of Policy Analysis	4
PS 5850	Human Rights	4
PS 6455	Discrimination and Fair Housing	3

Political Philosophy and Ethics

The justification and application of ethical standards to politics; history and analysis of authority and rebellion, individualism and community, justice and equality; modern ideologies such as communism, socialism, liberalism, and conservatism. Relevant courses include:

Code	Title	Credits
PS 2420	Ethics and Politics of Public Policy	4
PS 2510	Introduction to Political Ideologies	4
PS 3510	Law, Authority and Rebellion	4
PS 3515	American Political Thought	3-4
PS 3520	Justice	4
PS 3530	Great Political Thinkers I	4
PS 5560	Biopolitics	4
PS 5850	Human Rights	4

Quantitative Political Analysis

Methods of analysis used to assess alternatives and evaluate the impact of government policy; methods of empirical political research including data collection, statistical description and inference, and the use of computers to organize and interpret data. Relevant courses include:

Code	Title	Credits
PS 2460	Policy and Rationality: Dilemmas of Choice	4
PS 3600	Methods of Political Inquiry	4
PS 4460	Techniques of Policy Analysis	4
PS 5630	Statistics and Data Analysis in Political Science I	4
PS 6640	Statistics and Data Analysis in Political Science II	3

Comparative Politics

The study of government and politics of western, non-western, and third world countries in their historical, cultural, and economic settings; problems of comparison across cultural and national boundaries. Relevant courses include:

Code	Title	Credits
PS 2710	Introduction to Comparative Politics	4
PS 3710	Politics of Western Europe	4
PS 3715	Politics of Central and Eastern Europe	4
PS 3735	Politics of Latin America	4
PS 3770	Politics of East Asia	4
PS 4710	Democracy	4

World Politics

Conflict and cooperation among nations; causes of war and the pursuit of peace; international law; international organizations and multi-national corporations; North-South relations and issues of development, imperialism, and dependency; East-West relations and the changing world order; American foreign policy and issues of disarmament, intervention, and economic competition. Relevant courses include:

Code	Title	Credits
PS 2810	World Politics	4
PS 2820	Introduction to Peace and Conflict Studies	3
PS 3795	Latin America in World Affairs	4
PS 3811	Theory of World Politics	4

PS 3830	War	4
PS 3835	Middle East Conflict	4
PS 3840	American Foreign Policy and Administration	4
PS 4810	Foreign Policies of Major Powers	4
PS 5740	Ethnicity: The Politics of Conflict and Cooperation	4
PS 5820	International Law	4
PS 5830	International Conflict and Management	4
PS 5850	Human Rights	4
PS 6100	Introduction to Graduate Peace and Security Studies	3
PS 6850	International Organizations	3
PS 6860	American Foreign Policy	3
PS 6870	United States Foreign Relations Law	4

Pre-Law Curriculum

Political science provides a useful major for students who anticipate applying to law school. For students choosing the Bachelor of Arts program, a Public Law/Legal Studies concentration drawing upon courses such as those listed below is recommended along with courses in American Government and public policy (numbered with second digits of 0 and 4, respectively). Specific programs of study under either degree option should be developed in consultation with the department's academic advisor.

Code	Title	Credits
PS 3100	American Legal Systems and Processes	4
PS 5110	Constitutional Law	4
PS 5120	Constitutional Rights and Liberties	4
PS 5820	International Law	4
PS 5850	Human Rights	4
PS 5890	Dispute Resolution	3
PS 6120	Administrative Law and Regulatory Politics	3
PS 6870	United States Foreign Relations Law	4

Political Science Honors Programs

Bachelor of Arts and Bachelor of Public Affairs majors with strong academic records are encouraged to pursue departmental honors. To be eligible to enter the honors program, a major must have a cumulative grade point average of 3.3. To graduate with honors, students must:

1. Maintain a 3.3 grade point average.
2. Under the direction of one or more members of the department, complete a senior honors paper (PS 4995).
3. Complete all requirements for the Bachelor of Arts or Bachelor of Public Affairs degree.
4. Complete one 4200-level Honors seminar offered through the Honors College, see Honors Courses (HON).
5. Accumulate an additional eight credits in honors-designated course work beyond PS 4995, and the Honors Program seminar. These honors credits can be obtained from any department, including Political Science. For information about honors-designated coursework available each semester.

Students interested in participating in the program should contact the department's undergraduate advisor to determine their eligibility.

'AGRADE' Program (Accelerated Graduate Enrollment)

Accelerated Graduate Enrollment: Bachelor of Arts and Bachelor of Public Affairs majors with superior academic records (top twentieth percentile overall, with at least a 3.6 g.p.a. in the major) are eligible in their senior year (a minimum of 90 credit hours earned) to participate in accelerated graduate enrollment ('AGRADE') programs leading to either a Master of Arts degree with a major in political science or a Master of Public Administration degree. The 'AGRADE' programs enable students to pursue graduate and undergraduate degrees simultaneously and to apply twelve to fifteen credits of approved course work to both degrees. To participate, students must apply and be accepted into the 'AGRADE' program by the Departmental Graduate Committee and secure the approval of the Graduate Officer of the College of Liberal Arts and Sciences in accordance with rules and procedures established by the College. Students should contact the Department's undergraduate advisor for further details.

Internships

Internships in government, political campaigns, political advocacy groups, civic organizations, or public agencies provide valuable work-educational experience that enables students to relate knowledge acquired in the classroom to the world-at-large. They also provide practical training that enhances future job prospects. Academic credit may be earned for an internship through enrollment in PS 2992, Political Science Internship, a course that helps to assure the educational relevance of the internship by requiring interns to prepare papers and reports based on their experiences. Interested students should consult the department's undergraduate advisor.

Study Abroad Exchange Program with the University of Salford

Students may study for one or two semesters at the University of Salford in Salford, England, and earn Wayne State credits through an exchange agreement between the two universities. Applications may be obtained from the Office of Study Abroad and Global Programs (http://www.studyabroad.wayne.edu). Interested majors or prospective majors should also consult with the Department's undergraduate advisor.

Public Affairs (B.P.A.)

The Bachelor of Public Affairs (B.P.A.) prepares qualified students for professional and technical careers in the public service or for advanced study in public affairs and administration, the social sciences and related disciplines. The program is a structured professional curriculum that builds on the foundation of a general liberal arts education. The curriculum incorporates fundamentals of social science theory and applications of that theory to public management and policy analysis. The B.P.A. provides students with skills needed for working in city, county, state and national government, in other public and non-profit agencies, and in positions in private enterprise that deal with governmental relations. Internships afford students an opportunity to apply what they have learned in public service settings. Students interested in this program should consult the political science undergraduate advisor as early as possible in their college careers.

Admission Requirements

Admission requirements for this program are satisfied by the general requirements for undergraduate admission (p. 22) to the University. To declare the B.P.A. as a major, a student must follow the procedures set forth by the College of Liberal Arts and Sciences for declaring a major.

Candidates for the B.P.A. degree must:

1. Complete a total of 120 credits in course work.
2. Satisfy all of the Liberal Arts Group Requirements (p. 222), excepting that the College's foreign language requirement need not be satisfied.
3. Satisfy the University General Education Requirements (p. 34).
4. Satisfy the major requirements listed below.

All course work must be completed in accordance with the regulations of the University (p. 11) and the College (p. 221) governing undergraduate scholarship and degrees. Students wishing to apply transfer credits toward the B.P.A. major should consult the political science undergraduate advisor regarding departmental policies and restrictions on the use of these credits.

Major Requirements

A Bachelor of Public Affairs major must complete a minimum of ten courses, including seven prescribed core courses and three courses within the B.P.A. elective curriculum (see concentration areas below). A Writing Intensive course in political science with a co-registration in PS 5993 is also required. Any political science elective or concentration course at the 3000-level or higher, except PS 5630 and PS 6640, may be used to fulfill this requirement. Students must demonstrate proficiency in writing on public affairs subject matter in a form and style consistent with B.P.A. standards. Election of a corequisite to PS 5993 must have approval from the instructor and students must follow the instructor's guidelines to demonstrate required proficiency. Upon certification by the instructor that the writing requirement has been fulfilled, a grade of Satisfactory ('S') will be awarded for PS 5993, a 'zero' credit course.

Core Curriculum

Candidates for the B.P.A. degree must satisfy the following core course requirements:

Code	Title	Credits
ECO 2010	Principles of Microeconomics	3-4
ECO 2020	Principles of Macroeconomics	3-4
PS 1010	American Government	3-4
or PS 1030	The American Governmental System	
PS 2410	Introduction to Public Policy	4
PS 2420	Ethics and Politics of Public Policy	4
or PS 2460	Policy and Rationality: Dilemmas of Choice	
PS 3600	Methods of Political Inquiry (for students with adequate background)	4
or PS 5630	Statistics and Data Analysis in Political Science I	
PS 4460	Techniques of Policy Analysis	4
PS 5993	Writing Intensive Course in Political Science [1]	0
Total Credits		25-28

[1] Taken in conjunction with either a 3000-level or higher concentration course.

Required Concentrations

In addition to completion of required core work, students must select a minimum of three additional courses within the B.P.A. elective curriculum, which is comprised of the totality of the courses set forth below. Ideally, these courses should fall within a coherent area of concentration, such as those areas suggested below.

Code	Title	Credits
Governance: National, State, and Local		
Select at least three of the following:		11-12
PS 2240	Introduction to Urban Politics and Policy	
PS 2310	Introduction to Public Administration	
PS 3040	The Legislative Process	
PS 3050	Politics of the American Presidency	
PS 3060	State Government and Politics	
PS 3070	Michigan Politics	
PS 3100	American Legal Systems and Processes	
PS 4710	Democracy	
PS 5110	Constitutional Law	
PS 6020	Intergovernmental Relations and American Federalism	
Govermental Relations, Lobbying, and Electoral Politics		
Select at least three of the following:		9-12
PS 3010	Public Opinion and Political Behavior	
PS 3020	Political Parties and Elections	
PS 3025	Political Campaigns in America	
PS 3030	Political Interest Groups	
PS 3040	The Legislative Process	
PS 3050	Politics of the American Presidency	
PS 3060	State Government and Politics	
PS 3070	Michigan Politics	
PS 3080	Gender and Politics	
PS 5030	African American Politics	
PS 5040	Religion and Politics	
PS 5050	Mass Media and Politics	
PS 6010	Political Psychology	
PS 6050	Class, Race, and Politics in America	
PS 6070	Labor and American Politics	
Public Management		
Select at least three of the following:		9-12
PS 2310	Introduction to Public Administration	
PS 3430	Bureaucracy and Public Policy	
PS 5830	International Conflict and Management	
PS 5890	Dispute Resolution	
PS 6020	Intergovernmental Relations and American Federalism	
PS 6120	Administrative Law and Regulatory Politics	
PS 6700	Financial Management for Nonprofit Organizations	
Public Policy and Analysis		
Select at least three of the following:		9-12
PS 2310	Introduction to Public Administration	
PS 3060	State Government and Politics	
PS 3070	Michigan Politics	
PS 3430	Bureaucracy and Public Policy	
PS 3450	Environmental Policy and Politics	
PS 3840	American Foreign Policy and Administration	
PS 4810	Foreign Policies of Major Powers	
PS 6020	Intergovernmental Relations and American Federalism	
PS 6455	Discrimination and Fair Housing	
PS 6640	Statistics and Data Analysis in Political Science II	
Urban Policy and Management		

Select at least three of the following:		9-12
PS 2000	Introduction to Urban Studies	
or PS 2240	Introduction to Urban Politics and Policy	
PS 2310	Introduction to Public Administration	
PS 3060	State Government and Politics	
PS 3070	Michigan Politics	
PS 3250	Detroit Politics: Continuity and Change in City and Suburbs	
PS 3430	Bureaucracy and Public Policy	
PS 5030	African American Politics	
PS 6020	Intergovernmental Relations and American Federalism	
PS 6455	Discrimination and Fair Housing	
PS 6710	Introduction to Nonprofit Organizations	

Other Concentrations

With the assistance of the undergraduate advisor, an area of concentration may be specifically designed consisting of political science courses related to a student's particular career objectives. Such a concentration must consist of a minimum of three separate courses. Any proposal for substitutions of other political science courses for those within the above-designated B.P.A. elective curriculum must be submitted in writing to, and be approved by, the undergraduate advisor of the Department.

Political Science Honors Programs

Bachelor of Arts and Bachelor of Public Affairs majors with strong academic records are encouraged to pursue departmental honors. To be eligible to enter the honors program, a major must have a cumulative grade point average of 3.3. To graduate with honors, students must:

1. Maintain a 3.3 grade point average.
2. Under the direction of one or more members of the department, complete a senior honors paper (PS 4995).
3. Complete all requirements for the Bachelor of Arts or Bachelor of Public Affairs degree.
4. Complete one 4200-level Honors seminar offered through the Honors College, see Honors Courses (HON).
5. Accumulate an additional eight credits in honors-designated course work beyond PS 4995, and the Honors Program seminar. These honors credits can be obtained from any department, including Political Science. For information about honors-designated coursework available each semester.

Students interested in participating in the program should contact the department's undergraduate advisor to determine their eligibility.

'AGRADE' Program (Accelerated Graduate Enrollment)

Accelerated Graduate Enrollment: Bachelor of Arts and Bachelor of Public Affairs majors with superior academic records (top twentieth percentile overall, with at least a 3.6 g.p.a. in the major) are eligible in their senior year (a minimum of 90 credit hours earned) to participate in accelerated graduate enrollment ('AGRADE') programs leading to either a Master of Arts degree with a major in political science or a Master of Public Administration degree. The 'AGRADE' programs enable students to pursue graduate and undergraduate degrees simultaneously and to apply twelve to fifteen credits of approved course work to both degrees. To participate, students must apply and be accepted into the 'AGRADE' program by the Departmental Graduate Committee and secure the approval of the Graduate Officer of the College of Liberal Arts and Sciences in accordance with rules and procedures established by the College. Students should contact the Department's undergraduate advisor for further details.

Internships

Internships in government, political campaigns, political advocacy groups, civic organizations, or public agencies provide valuable work-educational experience that enables students to relate knowledge acquired in the classroom to the world-at-large. They also provide practical training that enhances future job prospects. Academic credit may be earned for an internship through enrollment in PS 2992, Political Science Internship, a course that helps to assure the educational relevance of the internship by requiring interns to prepare papers and reports based on their experiences. Interested students should consult the department's undergraduate advisor.

Study Abroad Exchange Program with the University of Salford

Students may study for one or two semesters at the University of Salford in Salford, England, and earn Wayne State credits through an exchange agreement between the two universities. Applications may be obtained from the Office of Study Abroad and Global Programs (http://www.studyabroad.wayne.edu). Interested majors or prospective majors should also consult with the Department's undergraduate advisor.

Political Science Minor

Students majoring in other subjects may obtain a minor in political science by completing a minimum of twenty credits in Political Science course work. Information on combinations of courses which emphasize particular subfields of political science is presented in the listing of bachelor of arts concentrations (p. 299). For information on courses of relevance to such majors as economics, journalism, history, sociology, psychology, philosophy, criminal justice, or urban planning, students should consult the department's undergraduate advisor. A suitable sequence for pre-law students can be provided by the undergraduate advisor.

Psychology

Office: 7th floor, 5057 Woodward; 313-577-2800
Chairperson: Scott Bowen
Associate Chairperson: Emily Grekin
Undergraduate Academic Service Officer: Shelly Seguin
Undergraduate Academic Advisors: Cody Bailey-Crow, Corinne Forys, Solaf Matti
http://www.clas.wayne.edu/psychology/

Undergraduate training offered by the Department of Psychology serves several related purposes. For the science major and the liberal arts major, the study of psychology provides an opportunity to learn the scientific approach to the study of behavior which will include material helpful in increasing self-understanding and insight into the behavior of others. For students preparing for medicine, law, education, nursing, business, and other professions, psychology provides important basic knowledge useful in these vocations. For those planning to pursue graduate study in psychology, the undergraduate program establishes a sound foundation.

Psychology Mass Advising Meeting

Attendance at one of the meetings is mandatory for all psychology majors. Students are expected to attend prior to their first advising appointment.

Prospective and current WSU students who are considering majoring or minoring in psychology should attend to learn about the major and opportunities within the field. It is also helpful for individuals who are considering pursuing psychology as a second career and/or graduate studies. Meetings will cover psychology major requirements, information about graduate school, research experience, volunteer experience, the GRE, career resources, tips for success and much more. Attendance at one of the meetings is mandatory for all psychology majors. Students are encouraged to attend as soon as possible.

RSVP here (https://waynestate.az1.qualtrics.com/jfe/form/SV_4YqujklnzrhRyZL). You may attend without first RSVP'ing, but to ensure we have enough space we appreciate knowing that you are attending. Feel free to bring parents and/or interested friends.

- Psychology (B.A.) (p. 304)
- Psychology (B.S.) (p. 305)
- Psychology Minor (p. 306)
- Health Psychology Minor (p. 304)

Health Psychology Minor

Minor Requirements:

- For a minor in health psychology, a student must complete a minimum of twenty credits in psychology.
- This minor is **not** available to Psychology majors.
- At least three PSY courses must be taken at Wayne State.
- PSY 4993 or PSY 4994 (offered for S and U grades only) may not be counted in the twenty required credits.
- Students must have a cumulative minimum 2.0 GPA in PSY coursework to graduate.

Course Requirements:

- PSY 1010(minimum grade C) *or* PSY 1020+PSY 1030(minimum grade C)
- PSY 2020
- PSY 2410
- PSY 3120
- PSY 3310
- Choose from the following electives if needed to reach twenty credit minimum
  - PSY 2080
  - PSY 2400
  - PSY 3380

Psychology (B.A.)

Undergraduate training offered by the Department of Psychology serves several related purposes. For the science major and the liberal arts major, the study of psychology provides an opportunity to learn the scientific approach to the study of behavior which will include material helpful in increasing self-understanding and insight into the behavior of others. For students preparing for medicine, law, education, nursing, business, and other professions, psychology provides important basic knowledge useful in these vocations. For those planning to pursue graduate study in psychology, the undergraduate program establishes a sound foundation. Psychology-related employment for graduates with a bachelor's degree has increased in recent years. Such employment, of course, has depended on the personal characteristics of the individual, on the special qualifications and training of the individual, and particularly on job opportunity.

Admission Requirements

Admission requirements for this program are satisfied by the general requirements for undergraduate admission (p. 22) to the University.

Psychology Mass Advising Meeting

Attendance at one of the meetings is mandatory for all psychology majors. Students are expected to attend prior to their first advising appointment.

Prospective and current WSU students who are considering majoring or minoring in psychology should attend to learn about the major and opportunities within the field. It is also helpful for individuals who are considering pursuing psychology as a second career and/or graduate studies. Meetings will cover psychology major requirements, information about graduate school, research experience, volunteer experience, the GRE, career resources, tips for success and much more. Attendance at one of the meetings is mandatory for all psychology majors. Students are encouraged to attend as soon as possible.

RSVP here (https://waynestate.az1.qualtrics.com/jfe/form/SV_4YqujklnzrhRyZL). You may attend without first RSVP'ing, but to ensure we have enough space we appreciate knowing that you are attending. Feel free to bring parents and/or interested friends.

Candidates must complete minimum of 120 credits in course work including satisfaction of the University General Education Requirements (p. 34) and the College of Liberal Arts and Sciences Group Requirements (p. 222), as well as the Departmental major requirements cited below. All course work must be completed in accordance with the regulations of the University (p. 11) and the College (p. 221) governing undergraduate scholarship and degrees.

Major Requirements

- To graduate with a major in psychology, a student must complete satisfactorily at least thirty-four credits in PSY courses BEYOND the credits for PSY 1010 or PSY 1020+PSY 1030 (Introductory Requirement).
- Students must also attend the *Psychology Mass Advising Meeting*. This two hour meeting is offered approximately every two weeks at various days/times. Students need to attend only once, but must be present for the full meeting. Students are expected to attend either prior to or upon declaring major in psychology. Current schedule can be found at http://www.clas.wayne.edu/Psychology/Advising.
- Transfer students must complete at least twenty credits in the Psychology Department at Wayne State University.

Degree requirements include:

Code	Title	Credits
Introductory Requirement (Select one of the following):		
For psychology majors, a minimum grade of C in the Introductory Psychology Requirement is a pre-requisite for all other PSY courses. Students must have at least a 2.0 overall grade point average in their psychology coursework to graduate. PSY 1010 is recommended over PSY 1020 for students who intend to major in psychology.		
Option 1		
PSY 1010	Introductory Psychology (preferred option)	
Option 2		
PSY 1020	Elements of Psychology (or earned AP Psych credit)	
PSY 1030	Introductory Psychology Laboratory	
Mathematics		

Students must satisfy Quantitative Experience prior to PSY 2010. (p. 35)	
Students are urged to choose STA 1020 or MAT 1000 to satisfy QE.	
Research Methods in Psychology	
PSY 2020	Research Methods In Psychology [1]
Statistical Methods	
PSY 2030	Statistical Methods in Psychology [2]
Experimental Lecture (select one of the following):	
PSY 3040	Psychology of Perception: Fundamental Processes
PSY 3060	Psychology of Learning and Memory: Fundamental Processes
PSY 3080	Cognitive Psychology: Fundamental Processes
Experimental Laboratory	
PSY 3993	Laboratory in Experimental Psychology (must be taken concurrently with or after one of the above Experimental Lecture courses. PSY 3993 must be completed with a grade of C or better.)
Intermediate Composition (IC) course must be completed prior to PSY 3993. (p. 35)	
Additional Core Courses	
Select two of the following:	
PSY 2100	Psychology and the Workplace
PSY 2400	Developmental Psychology
PSY 2600	Psychology of Social Behavior
PSY 3120	Brain and Behavior
PSY 3310	Abnormal Psychology
PSY 5020	Honors Research in Psychology
Elective Courses	
As needed to satisfy the minimum credit requirement (thirty-four PSY credits BEYOND the Introductory Psychology Requirement). Students usually need three to five elective PSY courses.	

1 PSY 2020 is a mandatory prerequisite for other courses, such as PSY 2030, PSY 3993 and PSY 5020. Students are strongly encouraged to take PSY 2020 within one year after completion of the Introductory Psychology requirement. A minimum grade of C is required for Psychology majors. PSY 2020 can only be repeated one time.

2 PSY 2030 is a mandatory prerequisite for other courses, such as PSY 3993 and PSY 5020. Students are strongly encouraged to take PSY 2030 within one year after completion of the Introductory Psychology requirement. A minimum grade of C is required for Psychology majors. PSY 2030 can only be repeated one time.

Preparation for Psychology Graduate Work

While individual graduate programs in psychology have different requirements for admission, students who intend to do graduate work are advised to earn the B.A. or B.S. degree and select courses that are consistent with their intended area of study. Students are also encouraged to obtain research experience. A psychology advisor will help tailor a plan-of-work that is based on academic and career goals. Additional courses in mathematics, computer science, biology, and sociology are strongly recommended for students pursuing graduate work in psychology and for students who plan to apply for professional programs.

Psychology Honors Program

Students with an overall grade point average of 3.3 and a Psychology grade point average of 3.5 are eligible for admission to the Department's Honors Program. Satisfactory completion of the Honors Program will lead to a degree 'With Psychology Honors' on the diploma. Students interested in the program should obtain detailed information from the Psychology Department Undergraduate Advising Office.

Honors Sections provide smaller classes, somewhat more advanced readings, and opportunities for independent work by students. Students must complete a minimum of eighteen credits in honors coursework, including: PSY 5020 (Honors Research in Psychology), PSY 4991 (three-credit Honors Directed Study), PSY 4998 (Senior Thesis), and one additional PSY course designated as honors through an honors section or honors option contract. Students must also complete an Honors Seminar from the HON 42xx series.

Psychology (B.S.)

Undergraduate training offered by the Department of Psychology serves several related purposes. For the science major and the liberal arts major, the study of psychology provides an opportunity to learn the scientific approach to the study of behavior which will include material helpful in increasing self-understanding and insight into the behavior of others. For students preparing for medicine, law, education, nursing, business, and other professions, psychology provides important basic knowledge useful in these vocations. For those planning to pursue graduate study in psychology, the undergraduate program establishes a sound foundation. Psychology-related employment for graduates with a bachelor's degree has increased in recent years. Such employment, of course, has depended on the personal characteristics of the individual, on the special qualifications and training of the individual, and particularly on job opportunity.

Admission Requirements

Admission requirements for this program are satisfied by the general requirements for undergraduate admission (p. 22) to the University.

Psychology Mass Advising Meeting

Attendance at one of the meetings is mandatory for all psychology majors. Students are expected to attend prior to their first advising appointment.

Prospective and current WSU students who are considering majoring or minoring in psychology should attend to learn about the major and opportunities within the field. It is also helpful for individuals who are considering pursuing psychology as a second career and/or graduate studies. Meetings will cover psychology major requirements, information about graduate school, research experience, volunteer experience, the GRE, career resources, tips for success and much more. Attendance at one of the meetings is mandatory for all psychology majors. Students are encouraged to attend as soon as possible.

RSVP here (https://waynestate.az1.qualtrics.com/jfe/form/SV_4YqujklnzrhRyZL). You may attend without first RSVP'ing, but to ensure we have enough space we appreciate knowing that you are attending. Feel free to bring parents and/or interested friends.

Candidates must complete minimum of 120 credits in course work including satisfaction of the University General Education Requirements (p. 34) and the College of Liberal Arts and Sciences Group Requirements (p. 222), as well as the Departmental major requirements cited below. All course work must be completed in accordance with the regulations of the University (p. 11) and the College (p. 221) governing undergraduate scholarship and degrees.

Major Requirements

- To graduate with a major in psychology, a student must complete satisfactorily at least thirty-four credits in PSY courses BEYOND the credits forPSY 1010 or PSY 1020+PSY 1030(Introductory Requirement).
- Students must also attend the *Psychology Mass Advising Meeting*. This two hour meeting is offered approximately every two weeks at various days/times. Students need to attend only once, but must be present for the full meeting. Students are expected to attend either prior to or upon declaring major in psychology. Current schedule can be found at http://www.clas.wayne.edu/Psychology/Advising.
- Transfer students must complete at least twenty credits in the Psychology Department at Wayne State University.
- Bachelor of Science requires a minimum of 27 credits of non-Psychology science. See a Psychology advisor for list of applicable courses.

Degree requirements include:

Code	Title	Credits
Introductory Requirement (Select one of the following):		
For psychology majors, a minimum grade of C in the Introductory Psychology Requirement is a pre-requisite for all other PSY courses. Students must have at least a 2.0 overall grade point average in their psychology coursework to graduate. PSY 1010 is recommended over PSY 1020 for students who intend to major in psychology.		
Option 1		
PSY 1010	Introductory Psychology (preferred option)	
Option 2		
PSY 1020	Elements of Psychology (or earned AP Psych credit)	
PSY 1030	Introductory Psychology Laboratory	
Mathematics		
Students must satisfy Quantitative Experience prior to PSY 2010. (p. 35)		
Students are urged to choose STA 1020 or MAT 1000 to satisfy QE.		
Research Methods in Psychology		
PSY 2020	Research Methods In Psychology [1]	
Statistical Methods		
PSY 2030	Statistical Methods in Psychology [2]	
Experimental Lecture (select one of the following):		
PSY 3040	Psychology of Perception: Fundamental Processes	
PSY 3060	Psychology of Learning and Memory: Fundamental Processes	
PSY 3080	Cognitive Psychology: Fundamental Processes	
Experimental Laboratory		
PSY 3993	Laboratory in Experimental Psychology (must be taken concurrently with or after one of the above Experimental Lecture courses. PSY 3993 must be completed with a grade of C or better.)	
Intermediate Composition (IC) course must be completed prior to PSY 3993. (p. 35)		
Additional Core Courses		
Select two of the following:		
PSY 2100	Psychology and the Workplace	
PSY 2400	Developmental Psychology	
PSY 2600	Psychology of Social Behavior	
PSY 3120	Brain and Behavior	
PSY 3310	Abnormal Psychology	
PSY 5020	Honors Research in Psychology	
Elective Courses		
As needed to satisfy the minimum credit requirement (thirty-four PSY credits BEYOND the Introductory Psychology Requirement). Students usually need three to five elective PSY courses.		

1 PSY 2020 is a mandatory prerequisite for other courses, such as PSY 2030, PSY 3993 and PSY 5020. Students are strongly encouraged to take PSY 2020 within one year after completion of the Introductory Psychology requirement. A minimum grade of C is required for Psychology majors. PSY 2020 can only be repeated one time.

2 PSY 2030 is a mandatory prerequisite for other courses, such as PSY 3993 and PSY 5020. Students are strongly encouraged to take PSY 2030 within one year after completion of the Introductory Psychology requirement. A minimum grade of C is required for Psychology majors. PSY 2030 can only be repeated one time.

Preparation for Psychology Graduate Work

While individual graduate programs in psychology have different requirements for admission, students who intend to do graduate work are advised to earn the B.A. or B.S. degree and select courses that are consistent with their intended area of study. Students are also encouraged to obtain research experience. A psychology advisor will help tailor a plan-of-work that is based on academic and career goals. Additional courses in mathematics, computer science, biology, and sociology are strongly recommended for students pursuing graduate work in psychology and for students who plan to apply for professional programs.

Psychology Honors Program

Students with an overall grade point average of 3.3 and a Psychology grade point average of 3.5 are eligible for admission to the Department's Honors Program. Satisfactory completion of the Honors Program will lead to a degree 'With Psychology Honors' on the diploma. Students interested in the program should obtain detailed information from the Psychology Department Undergraduate Advising Office.

Honors Sections provide smaller classes, somewhat more advanced readings, and opportunities for independent work by students. Students must complete a minimum of eighteen credits in honors coursework, including: PSY 5020 (Honors Research in Psychology), PSY 4991 (three-credit Honors Directed Study), PSY 4998 (Senior Thesis), and one additional PSY course designated as honors through an honors section or honors option contract. Students must also complete an Honors Seminar from the HON 42xx series.

Psychology Minor

Minor Requirements:

- For a minor in psychology, a student must complete a minimum of twenty credits in psychology.
- At least three PSY courses must be taken at Wayne State.
- PSY 4993 or PSY 4994 (offered for S and U grades only) may not be counted in the twenty required credits.
- Students must have a cumulative minimum 2.0 GPA in PSY coursework to graduate.

Course Requirements:

- PSY 1010 (minimum grade C) *or* PSY 1020 + PSY 1030 (minimum grade C)
- PSY 2020
- Three to four more PSY courses to reach twenty credit minimum
- At least one course must be at 3000-level or higher
- At least one course must not also be applied to a student's major.

Public Health

Program Directors: Heather Dillaway and Kimberly Campbell-Voytal
Undergraduate Academic Advisors: Ranae Hamama and Margaret MacKeverican
http://clas.wayne.edu/public-health

Public health is the science of protecting and improving the health of people and their communities. This work is achieved by promoting healthy lifestyles, detecting and limiting health disparities, and researching disease and injury prevention. A large part of public health is also about promoting healthcare equity, quality and accessibility.

The College of Liberal Arts and Sciences offers training in a broad range of public health issues to undergraduate students interested in careers in both public health practice and applied public health research. Students will learn to ask questions, challenge assumptions, and explore answers to promote the health and well-being of communities locally, nationally and globally. In particular, students will learn how to be a catalyst for change in Detroit and beyond and facilitate health equity for years to come. Core courses in the public health major and minor allow students to gain competencies in the following areas:

- Social determinants of health
- Health disparities and health equity
- Environmental health
- Epidemiology
- Biostatistics
- Research methods and applied methodological approaches
- Public health practice

Students wishing to pursue the major or minor in Public Health should meet with a Program Director or the Undergraduate Academic Advisors in Public Health.

- Public Health (B.S.) (p. 307)
- Public Health Minor (p. 308)
- Public Health AGRADE (p. 308)

Public Health (B.S.)

The College of Liberal Arts and Sciences and the School of Medicine offers training in public health issues and policies to students interested in a broad range of health careers. Students will learn to ask questions, challenge assumptions, and explore answers to promote the health and well-being of communities locally, nationally and globally.

Admission Requirements

Admission requirements for this program are satisfied by the general requirements for undergraduate admission (p. 22) to the University.

Candidates must complete 120 credits in course work including satisfaction of the University General Education Requirements (p. 34) and the College of Liberal Arts and Sciences Group Requirements (p. 222), as well as the Departmental major requirements cited below. All course work must be completed in accordance with the regulations of the University (p. 11) and the College (p. 221) governing undergraduate scholarship and degrees.

Major Requirements

Students must complete 38-41 credits distributed as follows:

Code	Title	Credits
Core		
PH 2100	Introduction to Public Health	3
PH 3100	Social and Behavioral Aspects of Public Health	3
PH 3200	Introduction to Biostatistics	4
PH 3300	Epidemiology	4
PH 3500	Environmental Health	3
PH 4100	Public Health Principles and Practice	2
PH 4150	Public Health Practicum	2
PH 4400	Methodological Approaches in Public Health	4
PH 5100	Capstone Course in Public Health	4
Electives		
Select at least one public health (PH) elective (3-4 credits), and a minimum of two courses (6-8 credits) from the following:		
Anthropology		
ANT 3400	Introduction to Medical Anthropology	
ANT/GLS/PH 3410	Global Health	
ANT 5400	Anthropology of Health and Illness	
Biology		
BIO 2200	Introductory Microbiology	
BIO 2870	Anatomy and Physiology	
BIO 3070	Genetics	
BIO 3100	Cellular Biochemistry	
BIO 3200	Human Physiology	
BIO 5040	Biometry	
BIO 5640	Cancer Biology	
BIO/PSL 5680	Basic Endocrinology	
BIO 5750	Biology of Aging	
Economics		
ECO 2550	U.S. Health Care: Policy and Economics	
ECO 5230	Environmental Economics	
ECO 5550	Economics of Health Care	
ECO 5600	Introduction to Development Economics	
History		
HIS/SOC 3440	American Medicine in the Twentieth Century	
Nutrition and Food Science		
NFS 2030	Nutrition and Health	
NFS 3230	Human Nutrition	
NFS 4160	Food Laws and Regulations	
NFS 5220	Community Nutrition	
NFS 5250	Nutrition and Disease	
Philosophy		
PHI 1110	Ethical Issues in Health Care	
PHI 1130	Environmental Ethics	
PHI 2550	Introduction to Philosophy of Science	
PHI 5250	Justice and Rights in Health Care	
Political Science		
PS 2410	Introduction to Public Policy	
PS 2420	Ethics and Politics of Public Policy	

PS 3450	Environmental Policy and Politics
Psychology	
PSY 2080	Introduction to Drugs, Behavior, and Society
PSY 2410	Health Psychology
PSY 2600	Psychology of Social Behavior
PSY 3120	Brain and Behavior
PSY 3380	Human Sexuality
PSY 5330	Human Neuropsychology
Public Health	
PH 3050	Mental Health and Crime
PH 3410	Global Health
PH 3550	Geography and Public Health
PH 3600	Special Topics in Public Health
PH 3900	LGBT Health
PH 4050	Crime and Public Health
PH 4600	Special Topics in Health Disparities
PH 4900	Directed Study in Public Health
Sociology	
SOC 2205	Sociology of the Environment
SOC 2210	Sociology of Health and Medicine
SOC 4204	Seminar in Aging and the Life Course
SOC 4205	Seminar in Medical Sociology
SOC 5020	End-of-Life Issues
SOC 5360	Introduction to Medical Sociology
SOC 5760	Health and Life Course
SOC 6750	Sociology of Urban Health
Urban Studies and Planning	
UP 5430	Cities and Food
College of Fine, Performing and Communication Arts - Communication	
COM 5320	Health Communication
College of Education - Health Education	
HE 2310	Dynamics of Personal Health
HE 2320	Advancing Policy in Community Health Education
HE 3440	Nutrition and Health Education
HE 4340	Family and Reproductive Health
HE 5220	Health Behavior Change
HE 5440	Mental Health and Substance Abuse

Before enrolling in PH 3200 and 3300, students must complete STA 1020 or MAT 1800 or MAT 2010 or the equivalent with a C or better (or place into MAT 2010)#.

Students in the Public Health major must complete all required courses with a C grade or better.

Students in the Public Health major must complete all elective courses with a C- grade or better.

Elective courses allow students to specialize within the program in ways that enhance their academic and professional goals. Students should remember that elective courses may have their own prerequisite courses, and students should consult the Undergraduate Academic Advisors in Public Health to learn more about the major prior to undertaking the program.

Public Health Honors

To be recommended for an honors degree from this program, a student must maintain a cumulative g.p.a. of at least 3.30 and complete a minimum of twelve honors course credits including:

Code	Title	Credits
PH 4150	Public Health Practicum (Honors Section)	2
PH 5100	Capstone Course in Public Health (Honors Section)	4
One Course in Public Health (PH) with an Honors Option [1]		3-4
One 42XX level Honors Seminar [2]		3

1 Consult an advisor or the University Schedule of Classes (http://classschedule.wayne.edu) for available Honors Sections.

2 A list of seminars is available in the list of Honors (HON) (p. 580) courses.

Public Health Minor

Minor Requirements consist of 20-22 credits distributed as follows:

Code	Title	Credits
Core		
PH 2100	Introduction to Public Health	3
PH 3100	Social and Behavioral Aspects of Public Health	3
PH 3200	Introduction to Biostatistics	4
PH 3300	Epidemiology	4
Electives		
Select two additional courses from the list of electives for the Bachelor of Science program		6-8
Total Credits		20-22

Before enrolling in PH 3200 or PH 3300, students must complete STA 1020 or MAT 1800 or MAT 2010 or the equivalent with a C or better (or place into MAT 2010).

Students in the Public Health minor must complete all required courses with a C grade or better.

Students must complete all elective courses for the minor with a C- grade or better.

Public Health AGRADE Program

The goal of this proposal is to provide qualifying students in the Bachelor of Science in Public Health (B.S.P.H.) program in the College of Liberal Arts and Sciences with an opportunity to pursue an accelerated pathway to the Master of Public Health (M.P.H.) program in the School of Medicine, which prepares them for professional practice career at the intersection of public, clinical and/or other allied health sciences.

Application

Undergraduate students enrolled in the B.S.P.H. major or minor would be eligible to apply for AGRADE status in the semester in which they expect to complete 90 credits and in which they have completed the following four undergraduate courses:

Code	Title	Credits
PH 2100	Introduction to Public Health	3
PH 3100	Social and Behavioral Aspects of Public Health	3
PH 3200	Introduction to Biostatistics	4
PH 3300	Epidemiology	4

Applicants must have a 3.6 g.p.a or better in B.S.P.H. major coursework, and a cumulative g.p.a. of 3.5 or better. Students with a GPA of 3.3-3.49 will be considered on an individual basis.

Applications will be reviewed in both fall and winter semesters. Applicants will be required to submit a personal statement indicating their interest in the MPH program, their career goals, and the reasons why they are especially suited to join this accelerated track. Applicants will also be required to submit two recommendation letters from faculty referees able to address the student's capacity for graduate study. The GRE may be waived based on satisfactory performance in the AGRADE courses (at least a B grade in each AGRADE class). Acceptance to the B.S.P.H.-M.P.H. AGRADE program will be competitive. The admissions committee in the M.P.H. program will review all AGRADE applicants' applications and make decisions about admission to this accelerated track.

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Upon admission, students may elect 3-16 credits in approved graduate M.P.H. courses. These graduate level courses will complete elective bachelor's degree requirements as well as fulfill the beginning of study toward the master's degree.

Code	Title	Credits
FPH 7015	Biostatistics I	3
FPH 7100	Health Care Organization and Administration	3
FPH 7240	Epidemiology	3
FPH 7320	The Social Basis of Health and Health Care	3
FPH 7420	Principles of Environmental Health	3

The bachelor's degree will be awarded following the completion of the undergraduate degree requirements. Graduate course work taken in this program must be completed within eight years (from the time that the first graduate course is taken that is counted toward degree requirements) or within six years from the awarding of the bachelor's degree, whichever comes first.

For more information on individual degree requirements, please visit the respective sections of this bulletin for the Bachelor of Science in Public Health (p. 307) and the Master of Public Health (http://bulletins.wayne.edu/graduate/school-medicine/programs/public-health).

Religious Studies

Office: Room 12201, 5057 Woodward
Director: Vanessa De Gifis
Email: vdegifis@wayne.edu

Religious Studies aims at an academic investigation of the world's religions, of religious history, and of the place of religion in world cultures and societies from the ancient to the present. It draws on faculty resources from a wide range of traditional academic disciplines: anthropology, history, philosophy, classics, Near Eastern studies, Asian studies, literature, art history, political science, and sociology. Religious Studies respects the beliefs and backgrounds of the students who pursue courses in this area, but it also approaches its objects of study in a thoroughly scholarly manner, maintaining both intellectual openness and critical rigor.

The Wayne State Religious Studies Program, housed in the College of Liberal Arts and Sciences, at present offers an undergraduate Religious Studies Minor and serves as an intercollegiate, interdepartmental, and interdisciplinary faculty body to sponsor visiting lectures and academic conferences on religious studies. Its Director works with a Faculty Steering Committee and group of faculty affiliated with the Program to develop curricular offerings and plan other Program activities.

This minor is designed for undergraduates majoring in other areas or disciplines and requires a minimum of eighteen credits including the following:

Code	Title	Credits
One course in Comparative Religion:		
NE 1900	Comparative Religion [1]	
A course in one of the following topics:		
Philosophy of Religion		
PHI 2400	Introduction to the Philosophy of Religion	
Anthropology of Religion		
ANT 5370	Magic, Religion and Science [1]	
Sociology of Religion		
SOC 2100	Topics in Sociology (when offered as The Sociology of Religion)	

[1] Suggested examples.

At least four additional religious-studies courses (12 credits minimum), either from the posted list or approved by consent of the Director of Religious Studies. Among these must be courses on least two different religious traditions, including at least one of the following:

- Judaism
- Christianity
- Islam
- Buddhism
- Hinduism

Sociology

Office: 2228 Faculty/Administration Building; 313-577-2930
Chairperson: Jeffrey Kentor
http://www.clas.wayne.edu/Sociology/

The courses in sociology are designed for various groups of students:

1. those desiring scientific knowledge of social relationships as a part of their general education;
2. those planning to enter a public service profession such as social and urban planning, public administration, nursing, medicine, dentistry, or law;
3. those expecting to engage in work that will require a broad grasp of the nature of society, of public opinion, and of social change such as public affairs, journalism, public relations, communications, marketing, etc.;
4. those anticipating a career in social and statistical research or evaluation and planning;
5. those looking forward to the teaching of social studies and sociology;
6. those preparing for a career in international studies or for service in foreign affairs;
7. those majoring in sociology as a preparation for graduate professional training in social work, public health, or urban planning;
8. those planning to pursue graduate studies in sociology.

A good background in Sociology can be a valuable component of preparation for a variety of careers, professions, and occupations. The following information summarizes some of these opportunities. Faculty

advisors in Sociology can provide additional information on these and other areas as well.

Human Services Work

Students whose occupational aspirations include working with families, or with men and women in various types of human services or therapeutic settings (Social Work, Nursing, Education, Psychology, Law, Medicine) might consider electing one or more of the following courses:

Code	Title	Credits
SOC 2600	Race and Racism in America	3
SOC 3400	Exploring Marriage and Other Intimate Relationships	3
SOC 4460	Women in Society	3
SOC 5400	The Family	3
SOC 5410	Marriage and Family Problems	3
SOC 5700	Seminar in Social Inequality	3
SOC 5870	Violence in the Family	3

Business

Students who are preparing for a career in business might consider taking:

Code	Title	Credits
SOC 1010	Understanding Human Society	3
SOC 1020	Social Problems	3
SOC 2203	Social Psychology	3
SOC 2300	Social Inequality	3
SOC 3200	Methods of Social Research	3
SOC 5700	Seminar in Social Inequality	3

Inter-Group Relations

Any student whose future occupation will entail working with peoples of diverse ethnic and racial groups might consider taking the following courses:

Code	Title	Credits
SOC 2204	Outsiders and Deviants	3
SOC 2300	Social Inequality	3
SOC 2600	Race and Racism in America	3
SOC 4460	Women in Society	3
SOC 5570	Race Relations in Urban Society	3
SOC 5580	Law and the African American Experience	4
SOC 5700	Seminar in Social Inequality	3
SOC 5760	Health and Life Course	3

Crime and Criminal Justice

Students whose career goals are in the areas of criminal justice, police work, corrections, probation, law, or related fields might be advised to select their elective courses from among the following:

Code	Title	Credits
SOC 1020	Social Problems	3
SOC 2203	Social Psychology	3
SOC 2204	Outsiders and Deviants	3
SOC 3840	Corrections	4
SOC 5410	Marriage and Family Problems	3
SOC 5580	Law and the African American Experience	4
SOC 5810	Law in Human Society	3
SOC 5870	Violence in the Family	3

Work with Health-Care Agencies or the Aged

Students who plan to work with the aged or in health care fields (social gerontology, public health, biomedicine, nursing) might consider taking one of more of the following courses:

Code	Title	Credits
SOC 2203	Social Psychology	3
SOC 3440	American Medicine in the Twentieth Century	3
SOC 5360	Introduction to Medical Sociology	3
SOC 5760	Health and Life Course	3
SOC 6750	Sociology of Urban Health	3

- Sociology (B.A.) (p. 310)
- Sociology Minor (p. 311)

Sociology (B.A.)

Sociology is a social science discipline that enables us to understand how society is organized, how society is ever changing, and how groups experience the social world. It is a discipline that can also let us start to understand group attitudes and behaviors as well as individual lives. It examines the ways in which social categories (such as class, race, sex, age, nationality, or sexuality), and various social institutions (such as kinship, economic, political, or religious) affect human attitudes, actions, and opportunities. It also lets us begin to understand more broadly how our society is organized. One of the most important things that sociology does is to link individuals' private troubles to large public societal problems; this is called the "sociological imagination." For instance, if person in Detroit is laid off from his or her job, what are the larger societal trends that might be the reason for that layoff? Or, think about all of the people without health insurance around you – what are the real reasons for this lack of insurance and how can we understand this disparity?

In the Department of Sociology at Wayne State, we specialize in the study of health and illness, race and gender inequality, labor studies, and urban studies. Faculty members study a variety of things themselves, for instance, gender and race inequalities in paid work, policy changes in workplaces, fetal alcohol syndrome, elder abuse, menopause and midlife, religion and racial politics in Detroit, the Detroit gardening movement, motherhood, why different racial groups stay in Detroit, public health, and race disparities in education. We also have faculty studying paid work patterns, work-family policy, social movements, and the effects of natural disasters in countries such as Mexico, China, Germany and Japan. A good background in Sociology can be a valuable component of preparation for a variety of careers, professions, and occupations.

Admission Requirements

Admission requirements for this program are satisfied by the general requirements for undergraduate admission (p. 22) to the University.

Candidates must complete 120 credits in course work including satisfaction of the University General Education Requirements (p. 34) and the College of Liberal Arts and Sciences Group Requirements (p. 222), as well as the Departmental major requirements cited below. All course work must be completed in accordance with the regulations of the University (p. 11) and the College (p. 221) governing undergraduate scholarship and degrees. It is expected that Group Requirements will be fulfilled during the freshman and sophomore years. Language Group Requirements should normally be fulfilled before election of the major.

Major Requirements

Students majoring in sociology are required to elect a minimum of thirty-three credits in the field of sociology, including six required courses:

Code	Title	Credits
SOC 1010	Understanding Human Society	3
SOC 2200	Sociology as a Vocation I	2
SOC 3200	Methods of Social Research	3
SOC 3220	Introduction to Social Statistics	3
SOC 3050	Basic Sociological Theory	3
SOC 4010	Sociology as a Vocation II	1
SOC 4996	Honors Thesis in Sociology	3
Electives (at least 6 credits at the 4000/5000 level)		15
Total Credits		33

For SOC 4996, students are required to complete the first five required sociology courses with a grade of C or better prior to enrollment. SOC 4996 also must also be completed with a grade of C or better. In addition to required courses, all sociology majors are required to take at least eleven credits in sociology elective courses. All elective credits in sociology must be completed with a C-Minus grade or better. Students may not elect more than forty-five credits in course work within the Department.

Sociology Honors Program

The honors designation is available to sociology students who fulfill all requirements for the major and who maintain a cumulative grade point average of at least 3.3 and at least 3.3 in sociology courses. Honors students must demonstrate the ability to do original work by writing an Honors Thesis during their senior year. The Sociology Honors Program is at least fourteen credits and leads to a degree designation 'With Honors in Sociology.'

Requirements for the Honors Degree are:

1. satisfaction of all requirements for a major in sociology;
2. completion of Honors section of SOC 3220 with grade of C or better;
3. completion of Honors Section SOC 4996 with a grade of C or better;
4. At least one additional sociology course with the Honors designation (3 credits min.)
5. an approved Honors Thesis; and
6. at least one 4200-level seminar (HON 4200-HON 4280) offered through the Honors Program of the College of Liberal Arts and Sciences.

'AGRADE' Program (Accelerated Graduate Enrollment)

The Department of Sociology permits academically superior majors to petition for admission into the College's 'AGRADE' Program. 'AGRADE' procedures enable qualified seniors in the Department to enroll simultaneously in the undergraduate and graduate programs of the College and apply a maximum of fifteen credits towards both a bachelor's degree and a master's degree in the major field. Students who have a 3.6 GPA and who have completed 90 credits of their Bachelors degree can apply for AGRADE.

For more details about the 'AGRADE' Program, contact the Undergraduate advisor in Sociology (313-577-2930), or the Graduate Office of the College of Liberal Arts and Sciences (313-577-2690).

Sociology Minor

Minor Requirements: A minor in sociology is offered for students majoring in other fields. The minor requires at least twenty credits including:

Code	Title	Credits
SOC 1010	Understanding Human Society	3
SOC 2200	Sociology as a Vocation I	2
SOC 3200	Methods of Social Research	3
SOC 3050	Basic Sociological Theory	3
Electives (at 3 credits at the 4000/5000 level)		9
Total Credits		20

All core courses must be completed with a grade of C or better, and all sociology elective credits must be completed with a grade of C- minus or better.

Urban Studies and Planning

Office: 3198 Faculty Administration Building; 313-577-2701; Fax: 313-577-0022
Chairperson: Rayman Mohamed
http://www.CLAS.wayne.edu/DUSP/

The field of urban studies explores contemporary cities and urban trends and addressed some of today's most pressing problems. Globally, complex systems of urban settlement house the overwhelming majority of the population and dominate their residents' social, economic, cultural, and intellectual lives. In the U.S., in particular, exploring the development and transformation of metropolitan regions is essential to understanding some of the most significant dynamics affecting the nation. Especially pertinent are the powerful forces of suburbanization, political fragmentation, and residential segregation along lines of race and class that reshaped our society in the latter half of the 20th century. These forces structure the resources, activities, and opportunities that unite and divide Americans. Wayne State's Detroit location offers a powerful vantage point from which students may gain valuable insight these complex dynamics.

The profession of urban planning takes major responsibility for the development of comprehensive plans and programs for local communities as well as larger regional units. These plans visualize future conditions of social, economic, physical and environmental change, and provide an estimate of the community's long-range needs for various facilities and services. Professional urban planners perform a variety of tasks such as developing plans for housing, transportation, rehabilitation of blighted metropolitan areas, and improving the appearance and efficiency of communities. The program seeks to prepare individuals for working with local and state public agencies, nonprofit organizations and for consultants and others in the private sector.

- Urban Studies (B.A.) (p. 311)
- Urban Studies Minor (p. 312)
- Urban Sustainability Minor (p. 312)

Urban Studies (B.A.)

The field of urban studies explores contemporary cities and urban trends and addressed some of today's most pressing problems. Globally, complex systems of urban settlement house the overwhelming majority of the population and dominate their residents' social, economic, cultural, and intellectual lives. In the U.S., in particular, exploring the development and transformation of metropolitan regions is essential to understanding some of the most significant dynamics affecting the nation. Especially pertinent are the powerful forces of suburbanization,

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Admission Requirements

Admission requirements for this program are satisfied by the general requirements for undergraduate admission (p. 22) to the University.

Candidates must complete 120 credits in course work including satisfaction of the University General Education Requirements (p. 34) and the College of Liberal Arts and Sciences Group Requirements (p. 222), as well as the Departmental major requirements cited below. All course work must be completed in accordance with the regulations of the University (p. 11) and the College (p. 221) governing undergraduate scholarship and degrees.

Major Requirements

A major in urban studies requires completion of twenty-six credits in seven core courses, one four-credit research methods course, and five credits of additional urban-related electives, as outlined in the following curriculum.

Code	Title	Credits
Core Courses		
US 2000	Introduction to Urban Studies	4
PS 2240	Introduction to Urban Politics and Policy	4
GPH 3130	Introductory Urban Geography	4
GPH 3600	Introduction to Geographic Information Systems	4
US 4510	Cities and Regions	3
ECO 5800/ UP 5820	Urban and Regional Economics	4
US 4620	Urban Studies Senior Capstone Research	3
Research Methods Courses		
Select one of the following:		4
CRJ 3550	Research Methods in Criminal Justice	
GPH 6420	Quantitative Techniques I	
PS 3600	Methods of Political Inquiry	
SOC 3200	Methods of Social Research	
US 4420	Methods for Urban Studies	
Elective Courses in Urban Studies		
Select 5 credits of the following:		5
AFS 3160	Black Urban History	
AFS 3180	Black Social Movements	
ANT 3020	Introduction to Archaeology	
ANT 3020	Introduction to Archaeology	
ANT 3200	Lost Cities and Ancient Civilizations	
ANT 5060	Urban Anthropology	
ANT 5280	Field Work in Archaeology of the Americas	
ANT 5500	Historical Archaeology	
CRJ/GSW 2750	Diversity Issues in Criminal Justice	
CRJ 3120	Politics of the Criminal Justice Process	
CRJ 5995	Special Topics in Criminal Justice	
ECO 5600	Introduction to Development Economics	
ELR 2500	Introduction to Labor Studies	
GPH 4600	Advanced Geographic Information Systems	
HIS 2050	Modern America: Since 1877	
HIS 5665	Global Cities	
HIS 5670	Modern American Cities	
PS 3250/ HIS 3240	Detroit Politics: Continuity and Change in City and Suburbs	
SOC 1020	Social Problems	
SOC 2600	Race and Racism in America	
SOC 5400	The Family	
SOC/AFS 5570	Race Relations in Urban Society	
SOC 6750	Sociology of Urban Health	
UP 3530	Urban and Regional Planning	
US 3650	History of Detroit	
UP 5650	Metropolitan Detroit	
US 6000	Internship	
Total Credits		35

Urban Studies Honors Program

Students with a grade point average of 3.3 or higher may be admitted to the Honors Program in Urban Studies. The honors major must elect one semester of a 4000-level Honors College seminar and accumulate at least fifteen credits in honors-designated course work. Honors courses from any Department in the College, including this one, all contribute to the fifteen-credit requirement. The honors major student is permitted to follow a course of study somewhat independent of standard requirements, through the election of Honors Directed Study.

Urban Studies Minor

The requirements for a minor in Urban Studies include at least three courses from the core requirements for the Urban Studies Major (p. 312), including:

Code	Title	Credits
US 2000	Introduction to Urban Studies	4
GPH 3130	Introductory Urban Geography *	4
US 4510	Cities and Regions *	3

* This course cannot be listed or cross-listed as part of a student's declared major program.

The remainder of a student's 18 credits must be completed by selecting courses from the list of Urban Studies Electives, or from additional courses not included in the list but approved by the student's faculty advisor within the Department of Urban Studies and Planning.

Urban Sustainability Minor

The Minor in Urban Sustainability will provide students with an opportunity to further their understanding of the myriad issues in fostering environmental preservation, equity, and economic development (the 3-Es of sustainability) in urban areas, while providing them with a foundation for advancing their academic and professional interests in the many directions related to sustainability. The minor requires the completion of 18 credits.

Requirements

Code	Title	Credits
US/GPH/HIS/PS 2000/SOC 2500	Introduction to Urban Studies	4
GPH 3130	Introductory Urban Geography	4
UP 4460	Sustainable Cities	3

Select two electives from the following:		7
ANT 5060	Urban Anthropology	
BIO 3500	Ecology and the Environment	
BIO 5540	Landscape Ecology	
ENG 5795	Topics in Rhetoric and Writing [1]	
GEL 3100	Air and Water in Environmental Systems	
GPH 3600	Introduction to Geographic Information Systems	
HIS 5425	American Environmental History	
HIS/GLS 5540	World Environmental History since 1900	
HIS 5665	Global Cities	
HIS 5725	African Cities	
PS 2420	Ethics and Politics of Public Policy	
PS 3450	Environmental Policy and Politics	
PS 4460	Techniques of Policy Analysis	
SOC 2205	Sociology of the Environment	
SOC 2300	Social Inequality	
UP 5430	Cities and Food	
UP 5670	Modern American Cities	
Total Credits		18

[1] Inclusion of this course as an elective depends on the course topic and is subject to the approval of an advisor.

SCHOOL OF MEDICINE

Dean: Jack Sobel

The Wayne State University School of Medicine has been operating and granting degrees as a college of medicine since 1868. Originally called the Detroit Medical College, it was founded by Detroit native Theodore A. McGraw, M.D.

In 1879, a second medical college, the Michigan College of Medicine, opened in Detroit. The two colleges soon united to become the Detroit College of Medicine. In 1919, the Detroit College of Medicine and Surgery, as it was then known, became an official part of the Detroit Board of Education and thus an important unit in the rapidly developing Colleges of the City of Detroit. In 1933, the name of the Colleges of the City of Detroit changed to Wayne University in honor of the American Revolutionary War hero, Gen. Anthony Wayne. Wayne University became a state institution in 1956.

The School of Medicine entered its second century with a period of substantial growth and the creation of a new campus in midtown Detroit. With the opening of the Gordon H. Scott Hall of Basic Medical Sciences in 1971, the size of the entering class was increased to 256 students. With a recent increase to 290 medical students in entering classes, the Wayne State University School of Medicine is the largest single-campus medical school in the country, and the fourth largest overall.

Mission of the School

The primary mission of the Wayne State University School of Medicine is to educate a diverse student body in an urban setting and within a culture of inclusion, through high quality education, clinical excellence, pioneering research, local investment in our community and innovative technology, to prepare physician and biomedical scientific leaders to achieve health and wellness for our society.

The School of Medicine offers educational programs leading to the following degrees:

- Doctor of Medicine
- Doctor of Philosophy
- Master of Science

Graduate education in clinical fields, continuing medical education and post-doctoral training programs are offered. Two hundred and ninety students are admitted annually to the M.D. program and approximately 380 students are enrolled in doctoral or Master's degree study in more than twenty program and concentration areas, predominantly in the basic medical sciences. More than 2,000 learners are post-graduate trainees as medical residents, post-doctoral fellows or fellows in twenty-nine clinical research programs. The combined M.D./Ph.D. program admits highly qualified candidates each fall to participate in a rigorous seven- to eight-year program of study supported by scholarships from the University. Continuing education programs, seminars and colloquiums serve the faculty and students, as well as professionals throughout the community, as a resource for ongoing developments in the health sciences. In addition to degree programs, the School of Medicine offers courses in many basic medical science disciplines appropriate for students in other colleges and schools within the University. Non-degree enrollment in basic science courses at the graduate level is permitted on a limited basis for qualified students.

Research focusing on human health is the foundation of activities in the School of Medicine. Fundamental and applied research in biomedical sciences, clinical specialties and health care systems is directed by faculty. Research programs are supported by more than ninety million dollars annually through research grants, contracts and gifts. Members of the faculty serve on scientific boards, panels, study groups and in professional leadership roles in health care regionally, nationally and internationally. The research facilities of the School of Medicine are modern, well-equipped and growing with the pace of technological advances.

Clinical services provided by the faculty, post-graduates and students are rendered predominantly through the Detroit Medical Center and Henry Ford Health System institutions. Through affiliations between the Detroit Medical Center and Wayne State University and the Henry Ford Health System and Wayne State University, DMC and Henry Ford serve as the primary teaching hospitals for the School of Medicine. The School is also closely affiliated with the John D. Dingell Veterans Administration Medical Center for education, research and clinical programs. The School of Medicine perceives a responsibility to the population of the Detroit metropolitan region as a whole, both as an educational institution and as a supplier of physicians who are highly-skilled providers of medical care.

Facilities: Wayne State University Medical School

Gordon H. Scott Hall provides facilities for pre-clinical and basic science education, basic science departments and research laboratories for basic and clinical programs. The dean's offices and the dean's administrators' offices are located here.

The Helen Vera Prentis Lande Medical Research Building houses research laboratories for clinical and basic science faculty.

The Vera P. Shiffman Medical Library houses a full medical reference library, as well as computer instruction facilities.

The Louis M. Elliman Clinical Research Building provides research laboratories, experimental surgical suites and specialized research facilities for the Departments of Internal Medicine, Surgery, Pediatrics and Neurology.

The C.S. Mott Center for Human Growth and Development provides research space for programs in human reproduction, growth and development.

The Hudson-Webber Cancer Research Center is the translational research flagship facility for Wayne State University cancer research in partnership with the Barbara Ann Karmanos Cancer Institute.

The Richard J.Mazurek, M.D., Medical Education Commons plays a key role in enriching medical education by providing access to spaces and services that enhance campus life, including a convenient location for students, faculty, health professionals and guests; state-of-the-art classrooms and laboratories; and educational opportunities such as a modern patient simulation technology, the Kado Clinical Skills Center.

In addition to training at the Detroit Medical Center (DMC), medical students may train at eighteen other medical facilities, as well as hundreds of local physician offices.

The Wayne State University Physician Group (WSAPG) affiliated with the Wayne State University School of Medicine. Many WSUPG physicians serve as faculty and teach medical students and hospital residents.

The School of Medicine is an active partner in nationally- and regionally-recognized research programs, and has defined several areas of noted excellence, including cancer, women's and children's medicine, cardiology and cardiovascular health, the neurosciences and ophthalmology.

Facilities: Detroit Medical Center and Other Clinical Education Partners

The Detroit Medical Center includes:

Children's Hospital of Michigan, which specializes in medical research and treatment of infants and children - in particular, pediatric hematology,

oncology, cardiac surgery and the treatment of renal disease - and houses the state's poison control center.

Detroit Receiving Hospital and University Health Center, which specializes in the treatment of adult emergency and trauma cases, and includes special facilities for the care of emergency psychiatry, burn and spinal injuries. The University Health Center, connected to the hospital, is one of the country's largest multidisciplinary outpatient facilities, with twelve primary care service groups and more than twenty-five medical specialty services for ambulatory care.

Sinai-Grace Hospital, a full-service hospital offering a wide range of outpatient services.

Harper Hospital, which specializes in oncology, cardiology general surgery and a number of additional surgical specialties and sub-specialties.

Huron Valley-Sinai Hospital, located in a northern suburb, provides community hospital inpatient and outpatient services.

Hutzel Hospital, which includes among its areas of excellence obstetrics, gynecology, gynecologic oncology, ophthalmology, neonatology, perinatology and orthopedic surgery.

Rehabilitation Institute of Michigan, which uses an interdisciplinary approach to help physically disabled people reach their maximum level of independence.

Kresge Eye Institute, which is a major center for research and treatment of eye diseases.

Barbara Ann Karmanos Cancer Institute, which provides comprehensive cancer prevention, screening, diagnostics, treatment and supportive care to more than 10,000 new patients annually, and is a National Institutes of Health National Cancer Institute Comprehensive Cancer Center.

Gershenson Radiation Oncology Center, which provides technologically advanced radiation oncology services for all DMC facilities. Unique services include neutron therapy, Gamma Knife procedures and total body irradiation.

Henry Ford Hospital is a 802-bed tertiary care hospital, education and research complex located in Detroit's New Center area. The hospital is a multi-organ transplantation center and Level 1 trauma center. Henry Ford Hospital is listed in "Best Hospitals in America" Its doctors are routinely named among America's best. Henry Ford Hospital received the 2011 Malcolm Baldrige award, the nation's highest honor for innovation and performance excellence in health care.

Oakwood Hospital & Medical Center has 632 beds, and is a full-service teaching hospital in partnership Wayne State University that has served southeast Michigan for more than fifty years. OHMC is the tertiary hub for the three community hospitals of the Oakwood Healthcare System, providing high-level clinical care in a setting designed around the individuality of each patient. OHMC offers state-of-the art emergency medicine, general medicine and outpatient surgery, diagnostic imaging, labor and delivery/neonatal intensive care, pediatrics, intensive care and coronary units. Also opened in 2005, is the Fitzgerald Pavilion, the latest in fully integrated surgical suites. This $110 million expansion brings the next generation of surgery to southeast Michigan and offers the best surgical care.

The John D. Dingell VA Medical Center is a 108-bed full service medical center that provides primary, secondary and tertiary care. The medical center provides acute medical, surgical, psychiatric, neurological, and dermatological inpatient care. Primary care, medical and surgical specialties are also provided, as are mental health clinics that include substance abuse treatment, a day treatment center and a community-based psychiatric program with the goal of maintaining patients in their home community. The medical center also operates a 109-bed nursing home care unit and a Health Care for Homeless Veterans program.

St. John Health is comprised of seven hospitals plus more than 125 medical facilities in southeast Michigan offering heart, cancer, obstetrics, neurosciences, orthopedics, physical rehabilitation, behavioral medicine, surgery, emergency and urgent care.

Crittenton Hospital Medical Center provides a full continuum of clinical programs nationally ranked for quality excellence and a medical staff of nearly 500 physicians, representing a wide range of medical specialties providing primary, secondary and tertiary-level care. Crittenton has newly-renovated facilities and cutting-edge technology for providing patients with the most advanced medical care on both an inpatient and outpatient basis. Crittenton provides a campus for residents from Wayne State University's School of Medicine who are specializing in Family Medicine and Otolaryngology.

Shiffman Medical Library and Medical Learning Resource Centers

Director: Sandra Martin

The Shiffman Medical Library serves as the health sciences library for Wayne State University, including the School of Medicine, and the Eugene Applebaum College of Pharmacy and Health Sciences. The library encourages all Wayne State University students to take advantage of the wide range of health information resources and reference assistance available. In addition, the library provides open and restricted access computing areas for WSU students, faculty and staff. In keeping with its ongoing outreach mission, the library welcomes community residents conducting research, seeking health information and for other educational purposes. Online and remote access to digital information resources of the Shiffman Medical Library and all university libraries require a WSU AccessID. Contact the library at askmed@wayne.edu or 313-577-1088, or consult the School of Medicine website for instructions on accessing electronic biomedical information.

When not in use, a twenty-seat computer training lab is set aside for study. The library makes available course materials that are placed on reserve at its service desk, which also provides copies of textbooks, media and a variety of other resources.

Student Affairs

Assistant Dean of Student Affairs and Career Development:
Lisa MacLean, M.D.
Phone: 313-577-1463

Services include: career and supportive counseling; crisis intervention; liaison for referrals; guidance for residency application; support for student government and organization activities as well as oversight of Special Events, the Health and Wellness Program and the Medical Student Faculty Mentoring Program. The staff is committed to assisting students in every way possible as the students work toward M.D. degrees. These programs are part of the School's commitment to provide each matriculant with support services so that the rigorous educational program can be presented within as comfortable an environment as possible.

Services for Students

Health Services: Students are required to have personal comprehensive health insurance coverage through the School of Medicine health insurance plan. Students may qualify for the waiver program.

Counseling: Appointments for academic, personal and career counseling can be arranged through the Office of Student Affairs.

Mentoring: Faculty mentors are provided through the Office of Student Affairs for the purpose of giving guidance and support to the medical students throughout their medical school careers.

Health and Wellness: Health and Wellness Program was developed so that each student optimizes healthy coping strategies, finds good balance and achieves academic success throughout medical school.

Academic Resources Counseling: Referrals for academic support can be made by the student's assigned counselor to the Office of Learning and Teaching where an academic specialist is available to all students seeking to improve and/or enhance academic performance. Individual tutoring services and group review sessions are available. The mission of the School of Medicine's Office of Learning and Teaching is to provide educational services and programs for medical students who need academic support to improve their academic progress and for students to enhance their academic achievements. This Office also provides programming for Step 1 and Step 2 CK and CS support.

Medicine Degrees and Certificates (Graduate Programs)

There are two major types of academic programs in the School of Medicine - those leading to the M.D. degree and postgraduate medical education, and those programs in the basic medical sciences that offer Master of Science or Doctor of Philosophy degrees. For descriptions of these degree programs, see the Wayne State University Graduate Bulletin.

Doctor of Medicine (M.D. Program)

Educational Goals

The Wayne State University School of Medicine has adopted a comprehensive set of learning domains and competencies for the Doctor of Medicine program (https://www.med.wayne.edu/medical-education). This list formalizes the goals of a Wayne State University. medical education, and defines what a graduating physician should know to practice medicine in the 21st century. There are eight general learning domains: 1. Knowledge for Practice, 2. Patient Care, 3. Practice-Based Learning and Improvements, 4. Interpersonal and Communication Skills, 5. Professionalism, 6. Systems-Based Practice, 7. Interprofessional Collaboration, and 8. Personal and Professional Development.

Each of these domains is further refined in to measurable competencies that are measured through the medical school curriculum.

Admission to M.D. Program

Associate Dean of Admissions:
Kevin Sprague, M.D.

The School of Medicine accepts 290 students for its entering class. The students are selected from a large number of applicants who apply through the American Medical College Application Service (AMCAS).

Selection Factors

The Committee on Admissions will select applicants who, in its judgment, will make the best students and physicians. Consideration is given to the entire record, including grade point average, Medical College Admission Test scores, recommendations and interview results (one-on-one interview and multiple mini-interviews), as these reflect an applicant's personality, maturity, character and suitability for medicine. Additionally, the committee regards as desirable certain health care experiences, such as volunteering or working in hospitals, hospices, nursing homes or doctor's offices. The committee also values experience in biomedical laboratory research. Following an initial screening process, students with competitive applications are selected to complete a secondary application. Special encouragement is given to candidates from medically underserved areas in Michigan.

As a state-supported school, the institution must give preference to Michigan residents; however, out-of-state applicants are encouraged to apply. An applicant's residency is determined by university regulations. Applicants must be a U.S. or Canadian citizen or U.S. permanent resident to be eligible for admission. Students whose educational backgrounds include work outside the United States must have completed two years of course work, including the prerequisite courses at a U.S. or Canadian college or university. Canadian citizens are considered non-resident for both admission and tuition purposes. Interviews are required but are scheduled only with those applicants who are given serious consideration. The committee meets weekly to evaluate candidates. Offers of acceptance will be made monthly during the application cycle. Students are urged to apply by November 1.

Entrance Requirements

The Medical College Admission Test (MCAT) is required, in addition to a baccalaureate degree or its equivalent. The MCAT should be taken during the year of application, preferably in the spring but no later than September of the year prior to the desired start year. Required courses for medical school admission are:

General biology or zoology (with lab): 1 year
Inorganic chemistry (with lab): 1 year
Organic chemistry (with lab): 1 year
General physics (with lab): 1 year
English: 1 year

The admissions committee strongly recommends and will give consideration for the following courses:

Biochemistry
Statistics
Medical ethics
Mathematics
Social sciences
Upper level biology

Besides a strong preparation in the basic sciences, a broad educational background in a liberal-arts oriented program is desirable. Applicants are encouraged to select subjects that will contribute substantially to a broad cultural background.

The School of Medicine curriculum employs a combination of traditional and newer approaches to the teaching of medical students. It uses traditional lectures, small group and panel discussions, computer-assisted instruction, and multimedia in its teaching program.

YEAR 1 begins with an introductory Population, Patient, Physician (P3) course that includes introduction to the patient, human sexuality, medical interviewing, physical diagnosis, public health and prevention, population health, evidence-based medicine, as well as other relevant and current medical education curricular topics. Year 1 is organized around the disciplines of structure (anatomy, histology, and embryology), and function (biochemistry, physiology, genetics, and nutrition), and ends with an integrated neuro-science course.

YEAR 2 is a completely integrated year focusing on pathophysiology, including immunology/microbiology, and pharmacology.

YEAR 3 is a series of clinical clerkships including medicine, surgery, pediatrics, family medicine, psychiatry, neurology, and obstetrics and

gynecology. During year 3 all students have a six-month continuity clerkship.

YEAR 4 has two required courses, including, emergency medicine and a sub-internship in family medicine, medicine, pediatrics or surgery. Additionally, students must take a minimum of six elective months.

Application and Acceptance Policies

The School of Medicine adheres to the acceptance procedures of the Association of American Medical Colleges, including the 'Early Decision Plan.' Admission procedures of this School are:

1. An American Medical College Application Services application must be filed between June 1 and December 15 of the year preceding anticipated matriculation.
2. Applicants must respond to acceptance offer within three weeks of the offer.
3. Payment of a $50.00 deposit is required upon acceptance by the student of a place in the first-year class. The deposit will be credited toward the initial tuition payment.

Admission with Advanced Standing

Students from Liaison Committee on Medical Education (LCME) approved medical schools may be admitted with advanced standing to Year 3 only, subject to the number of vacancies that exist in the third year. Application for advanced standing should be made not later than June 15. The following requirements must be met:

1. An applicant must be matriculated as a student in an LCME-accredited United States or Canadian medical school for a period of time equal to that spent by the class in which he/she seeks entrance and must have completed courses equivalent to those required of that class.
2. The applicant must file a completed application form available on the School's website and must present official transcripts from each school attended showing that he/she meets, in full, the entrance requirements for admission to this School.
3. The applicant must be a student in good standing at the medical school from which he/she is transferring. A letter of support from the dean of that school is required.
4. The applicant must take and pass the United States Medical Licensing Examination, Step I on the first attempt for consideration to transfer with advanced standing into Year 3.

COLLEGE OF NURSING

Dean: Laurie Lauzon Clabo

The Wayne State University College of Nursing is regionally, nationally, and internationally recognized for educating graduate and undergraduate students as practitioners and scholars in the nursing profession. The College is committed to research and scholarly activity which contributes to the discipline of nursing and excels in the development, application, and dissemination of such knowledge to promote human health and well-being.

Nursing is an academic discipline and a profession. As a discipline, nursing develops knowledge concerning human beings, their care, health, and the environment. Concepts derived from such research order the discipline and profession of nursing as well as give identity to nursing practice and direct inquiry and theory development. As a profession, nursing creatively uses knowledge in response to the health care needs of society. Both of these functions are enhanced by the scholarly environment of the University and its multicultural urban setting as a context for professional nursing practice.

Consistent with this view of the nursing profession, the College supports the importance of the liberal arts, humanities, and the sciences in nursing education. The faculty believes that programs designed for the preparation of nurses must be composed of the intellectual, social, cultural, and technical components of liberal and professional education that are available to students within an institution of higher learning. The faculty also affirms the necessity and value of clinical practice within a professional nursing program. Experience within a variety of clinical and vulnerable populations is one of the primary modes for the development of nursing practice competencies.

Learners from diverse backgrounds enter the College to begin or continue their education and thereby add to the richness of this learning environment. The faculty supports the right of students to question, challenge and debate within the context of inquiry as an essential ingredient to their development. Continuing evaluation on the part of the students and the faculty is essential to advancing nursing knowledge and sustaining the integrity of the program.

The faculty of the College of Nursing, as members of the academic community, recognizes that its professional functions extend beyond contributions to formal teaching. Research, practice, and community service are important expectations of the faculty. The faculty views as essential, academic freedom, shared governance, opportunity to develop knowledge, and responsibility to incorporate new knowledge into teaching and nursing practice. The faculty assumes responsibility for enhancing the image of the College of Nursing and the University locally, nationally, and internationally through various avenues including research, scholarship, practice, consultation, and participatory decision making.

Accreditation

The baccalaureate program is approved by the Michigan State Board of Nursing, and graduates are admitted to the licensing examination for professional nurses in the State of Michigan. The baccalaureate, master's and doctorate in nursing practice programs of the College are accredited by the Commission for Collegiate Nursing Education (CCNE).

Academic Regulations

For complete information regarding academic rules and regulations of the University, students should consult the Academic Regulations (p. 11) section of this bulletin. The following additions and amendments pertain to College of Nursing students.

Academic Regulations Terminology

1. *Professional course* is any course required in the professional nursing curriculum.
2. *Satisfactory grade* is a grade of C (2.0) or better.
3. *Unsatisfactory grade* is a grade below 2.0, or a mark of X or an unauthorized mark of WP or WF.
4. *Probation* is a restricted status in the nursing program.
5. *Exclusion* from the program means that the student may not register in the program. (Continued registration in the University will necessitate that the student processes a Change of College to another academic program.)

Attendance

Regular punctual attendance in classes and clinical practice is expected. It is imperative that students maintain a perfect or near-perfect attendance record. Tardiness and/or failure to report to class can result in a lowering of the final course grade or exclusion from the course.

First Day of Class: Due to the nature of clinical courses and time requirements, first day class attendance is MANDATORY. Unexcused absences from the first day of any course may result in an administrative withdrawal for the student for that class and could delay progression in the program. If a student is removed from a class for non-attendance, clinical space in the subsequent class offering is not guaranteed.

Travel Requirements: It is the responsibility of the student to make all travel arrangements necessary to complete degree requirements. This includes travel arrangements required to reach all clinical agencies.

Examinations

Final Examinations for courses are offered on two occasions only; the day the University sets as the final examination date, and usually the Wednesday immediately following this date. The College will make no other arrangements for final examinations. If students miss both examination opportunities due to circumstances covered by one of the Special Circumstances (see below), they will receive an incomplete (I) grade for the course. They will have twelve months to convert the "I" grade into a passing grade (A to C). If the course is a clinical, the College will make every effort to enable the student to take the next offering of the course, subject to availability. However, the College makes no guarantees when a place will become available.

Other Examinations or Assessments (e.g., Midterms): The regulations for other examinations will be specified in the course syllabus. However, the regulations for notifying the College of missing an examination and the need to fulfill the Special Circumstances Rule (see below) to take a make-up examination will still apply.

Online Learning Assessments: The College of Nursing uses an educational software package that is integrated into the Nursing curriculum. It consists of tutorials, reviews, and assessments that will be included in certain courses. In the event that required assessments are not completed as required in the syllabi, students will receive an incomplete "I" grade for that assignment/course unless stated otherwise in the course syllabus. Students will have twelve months to convert the I grade into a passing grade (A to C). While carrying an I grade students will not be permitted to progress in their studies.

Missing an Examination: It is the students' responsibility to call 313-577-0130 if he/she is unable to be present for an examination. Calls must be made before the beginning of the examination if the student

intends to claim eligibility to sit for the make-up examination. While the student may also notify his/her professor directly, the date and time stamp on the examination hotline is the only acceptable record that he/she has called in time to miss an examination.

Special Circumstance Rules: The following are examples of events that qualify as a Special Circumstance for the purposes of missing examinations as well as the documentation (when appropriate) expected of students claiming these circumstances:

- Illness on the day of the examination or receiving health treatment: Provider note
- Death in the immediate family: Death Certificate
- Jury Duty or Court Summons: Jury duty notification or Court notice of summons
- Incarceration: Court notice
- Military Service: Service notice
- Natural Disasters

In the event that a student finds him/herself in any of these circumstances he/she must call 313-577-0130 and inform the College. Such students must supply the appropriate documentation as evidence of their need to sit for the make-up examination. Documents must be presented to faculty within forty-eight hours of missing the examination.

Time Limitation

The Traditional Program (including B.S.N. Direct Admit for Freshmen students) is ideally completed within four calendar years of admission to professional course work, unless an extension is granted by the Scholastic Policy and Admissions (SPA) Committee.

The Second Career/Second Degree Program (including B.S.N. for Veterans students) is ideally completed within five consecutive semesters following admission to the program unless an extension is granted by the Scholastic Policy and Admissions (SPA) Committee.

All students whose progress is delayed by reason of academic failure and/or leaves of absence beyond the time limitation for the program may be required to repeat and/or take additional course work in order to assure graduation with appropriate preparation for current professional nursing practice. Such determination will be made by the Scholastic Policy and Admissions (SPA) Committee.

Authorized Leave of Absence

A leave of absence may be requested by a student when personal circumstances interfere with the student's ability to devote sufficient time to academic pursuits to assure reasonable expectation of success. Leaves of absence are requested from and granted by the Associate Dean for Academic and Clinical Affairs, in consultation with the Scholastic Policy and Admissions Committee. The student should contact the Office of Student Affairs for the necessary materials and deadline dates regarding leaves of absence. A leave of absence is granted to students in good academic standing only. A student who is granted an approved leave of absence may return only if there is available space in the program. A student who takes an unauthorized leave of absence will be considered to have voluntarily withdrawn from the program and must apply for readmission to the College.

Licensure Preparation

All students entering the undergraduate program in Fall 2002 and thereafter (who are not already RNs) are required to complete nationally normed tests throughout their undergraduate program of study. Individual course syllabi will indicate how this requirement is applied and what part of the course grade will be assigned to these tests. Successful completion of these course requirements is integral to successfully passing the courses.

A satisfactory score is dictated by the comprehensive exam used and will be identified prior to the beginning of the semester in which the exam takes place. Each graduating student (who is not already a licensed RN) must also complete an approved NCLEX Review course in preparation for the NCLEX licensure examination as part of the program requirements. Students who achieve a score of **900** or better on the first HESI Comprehensive Exit Exam are exempt from the required NCLEX Review course although they may elect to participate in this review. The responsibility for the cost for the NCLEX Review course is that of the individual student. All program requirements must be met before a student can be certified as completing their degree requirements with the State of Michigan Licensing Board.

Students are allowed four attempts at successfully achieving a passing score on the HESI Exit Exam. The costs associated with the first two attempts are included in the students' fees and there is no additional charge. However, if a third or fourth exam is required, any and all costs associated with the third exam are the student's responsibility. Students will receive a grade of "Incomplete" until the 4th attempt has been scheduled and completed. if the student still fails to achieve a score of 900 on the HESI Exit exam, the student will receive a grade of "C" in NUR 4060 and counseled by the ASO as to the possible implications of the score on successful completion of the NCLEX exam. If the student still fails to achieve a score of 900 on the HESI Exit exam, the student will receive a grade of "C" in NUR 4060 and counseled as to the possible implications of the score on successful completion of the NCLEX exam. All program requirements must be met before a student can be certified as completing their degree requirements with the State of Michigan Licensing Board.

In order to begin a professional nursing career, successful writing of the National Council Licensure Examination for Registered Nurses (NCLEX-RN) is required. The NCLEX-RN is administered by state boards of nursing as part of the process used to determine whether registered nurse candidates meet licensure requirements. The examination is developed by the National Council of State Boards of Nursing to measure a candidate's ability to practice safely and effectively as a registered nurse in an entry-level position. It is designed to test the practical application of knowledge and skills in health care situations that occur frequently in entry-level nursing practice.

Graduates must satisfactorily complete the licensing examination before practicing as professional registered nurses (RNs).

Scholarship

1. All students must maintain a satisfactory (2.0) grade point average (g.p.a.) in both:
   a. Cumulative grades (general education and nursing); and
   b. Professional nursing courses.
2. Students must achieve a 2.0 g.p.a. in each nursing course. A student may not continue in subsequent courses for which the failed course is a prerequisite until a minimum of 2.0 has been achieved.
3. A grade below C (2.0) in a nursing course is unsatisfactory for progression.
4. Students may apply to repeat a nursing course, as space is available. The course may, only be repeated one time to raise the grade to the 2.0 g.p.a. level or above.
5. A maximum of one nursing course within the program may be repeated.

6. No nursing course for which a student has received a passing grade may be repeated without written approval of the Associate Dean for Academic and Clinical Affairs.
7. A student receiving a C-minus (1.67 g.p.a.) grade or less in either the theory or the clinical portion of any nursing course will have recorded no higher than a C-minus for the total course and will be required to successfully complete the re-entry process to repeat it before progressing to the next clinical course.
8. The mark of "I" is appropriate if the student encounters a catastrophic situation which prevents completion of the final requirements of a course. The mark of I is not appropriate for unsatisfactory scholastic performance. In the event a mark of 'I' is given, the time limit for completion will be determined by the instructor, but may not exceed one year. In the event the mark of "I" is received for a prerequisite course, the 'I' must be removed prior to enrollment in the subsequent course. After one year, if the incomplete is not completed the grade will automatically change to an F (failure) and will be treated as a failing grade.

Probation

Probationary status is a warning to a student to improve his/her academic performance in order to remain in the program.

1. A student is placed on probation if he/she does not maintain a minimum cumulative grade point average of 2.0.
2. A student is placed on probation if he/she does not maintain a minimum grade point average of 2.0 in professional nursing courses.
3. A grade point average must be returned to a minimum of 2.0 to remove probationary status. Probationary status must be removed within one calendar year.
4. Students on probation are not eligible to represent the College in any student activity.

Exclusion

A student will be excluded from the College if any of the following conditions occur:

1. Failure to satisfactorily complete a nursing course after **two** attempts;
2. Failure of more than one professional nursing course;
3. Failure to remove probationary status within one calendar year;
4. Irresponsible attendance or irresponsible performance/behavior at any time while enrolled in the program;
5. Failure to meet any special conditions required by the College Scholastic Policy and Admissions Committee for the student's continuation in the program;
6. Failure to complete the program within the time limitations outlined above, unless granted an extension by the Scholastic Policy and Admissions Committee.
7. Unsafe practice and/or unethical conduct as defined in the BSN student handbook.

Grade Appeals Policy

Basic Principles

Assistance. Student/faculty may contact the College of Nursing, Assistant Dean, Enrollment and Student Services and/or the Wayne State University Ombudsperson at any time for assistance with any problem associated with a grade decision or grade appeal.

Timeliness of appeals process. Failure of the instructor or any appeal officer to respond within the designated time frame of the formal appeal entitles the student to proceed to the next level of appeal. In no case should there be any assumption that a failure to respond at any level signifies a granting of the appeal. Failure of the student to adhere to the time-frames specified in the policy will result in the appeal process being nullified (the appeal will not be heard).

Process. All steps of the formal grade appeal must be done in written format; no email correspondence is acceptable. Information submitted should be time stamped and dated as it is received.

Academic dishonesty. These policy guidelines do not apply to allegations of academic dishonesty. Academic dishonesty matters are addressed under the Student Code of Conduct.

Patient safety. Students may be removed from a clinical course at any time in which the faculty or clinical agency staff identifies an issue that would constitute unsafe practice in the clinical setting that may jeopardize patient safety.

Note that "days" are counted as Monday through Friday, excluding University holidays.

Appeal of Grade

What can be appealed:

Only the manner in which the grade was assigned can be appealed. Instructors are expected to evaluate student work according to sound academic standards. It is the instructor's prerogative to assign grades in accordance with his/her academic/professional judgment. If the student believes the manner in which the grade was assigned was done in an unfair manner and the student is able to demonstrate that the unfair manner is based on one of the three criteria stated below, then the student may file an appeal pursuant to the process set forth below. The student assumes the burden of proof in the appeals process.

Grounds for appeals are:

1. The application of non-academic criteria in the grading process, as listed in the university's non-discrimination/affirmative action statute: race, color, sex (including gender identity), national origin, religion, age, sexual orientation, familial status, marital status, height, weight, disability, or veteran status;
2. Sexual harassment or discrimination; or
3. Evaluation of student work by criteria not directly reflective of performance relative to course requirements.

Grade Appeal Process

Prior to implementing the formal appeal process, the student must discuss in person the disputed grade with the instructor of the course within ten days of notification of the grade. The faculty member will respond in writing with a copy to the student and the Assistant Dean, Enrollment and Student Services. If the dispute remains unresolved, the student may then initiate a formal appeal.

All steps of the appeal process must be followed within the stated time frame or the appeal process is nullified (will not be heard).

Steps to Initiate a Formal Appeal

1. The student must submit a written statement detailing the basis of the appeal, along with supporting documentation, to the Assistant Dean of Faculty Affairs with copy to the Assistant Dean for Enrollment and Student Services, and the Associate Dean for Academic and Clinical Affairs. This statement must be submitted within 14 days following the event being appealed.
2. The Assistant Dean of Faculty Affairs must meet with the student within 14 days of receiving the appeal to attempt to resolve the issue.

3. The student must be notified in writing of the Assistant Dean of Faculty Affairs' decision within 21 days of receiving the student's written appeal. As the Dean's designee, the decision of the Assistant Dean of Faculty Affairs shall be the final decision at the College level.
4. If, after your School/college appeal path is exhausted and you wish to continue with the grade appeal process, per the University Academic policy (https://provost.wayne.edu/acdemic-policy), you may request a Provost review within 30 days of this decision. The request should be addressed to Dr. Darin Ellis, Associate Provost for Academic Programs and sent electronically to ag641@wayne.edu. For assistance with the appeal process, you may contact the Ombudsperson Laura Birnie-Lindemann at ombudsoffice@wayne.edu.

A written Request for a Provost Review must be made by the student himself/herself, with a copy to the Assistant Dean, Enrollment and Student Services and the Dean of the College, postmarked within 30 calendar days of the postmark of the College's final decision, which is to be sent to the address provided by the student in the College's review procedures. The Provost's review of the

College's decision will proceed as soon as practical after notification by the student of his/her wish to seek review.

The student may also file with the Provost a Request for a Postponement of the effect of the College's final decision. Such a Request must be postmarked within seven (7) calendar days of the postmark of the College's final decision, and a copy must be sent to the Dean of the College. Upon receiving a Request for Postponement, the Provost will immediately contact the Dean. Unless the College demonstrates clearly and convincingly that the injury to the College or to third persons that would result from such a postponement would outweigh the injury to the student from denying the postponement, the effect of the decision rendered by the College must be postponed until the date that the Provost issues a decision regarding the underlying Request for Provost Review. The Provost will inform the student and the Dean of her/his decision regarding the Request for Postponement within three (3) school days after receiving the request. Exceptions to this procedure may be granted by the Provost upon a showing of good and sufficient cause. Pursuant to University policy, the Provost's decision in an academic appeal is final.

Graduation Residency Requirement

The last thirty semester credits of the degree must be taken in residence at Wayne State University.

Graduation with Distinction

A candidate eligible for the bachelor's degree may receive a special diploma with *Cum Laude, Magna Cum Laude*, or *Summa Cum Laude* indicated. For the University guidelines regarding these distinctions, see Graduation with Distinction.

Dean's List and Honors List

Students completing twelve semester credits in study at Wayne State University are eligible for appointment to academic recognition lists each semester. The semester grade point average at Wayne State must be 3.75 or above in order to qualify for the Dean's List, or a 4.0 g.p.a. for students registered for six to eleven credits. The Honors List requires a minimum grade point average of 3.50. Lists of students on the Dean's List and Honors List will be posted in the College of Nursing. Students who receive marks of I or W or X and grades of N or U are not eligible. (For explanation of grades and marks, see Grading System, University (p. 48).)

Student Rights and Responsibilities

Continuance in the College is contingent upon compliance with official rules, regulations, requirements, and procedures of the University and the College of Nursing. *The student is responsible for reading the contents of this bulletin pertinent to the College of Nursing and otherwise becoming informed and fulfilling all course and degree requirements in proper sequence with satisfactory scholarship.* In case of doubt regarding any matter affecting his or her standing as a student, the student should consult with a College of Nursing advisor. The faculty reserves the right to amend or revise the policies and requirements set forth in the College of Nursing section of this bulletin.

A student may be required to withdraw from the College when, in the judgment of the faculty, behavior demonstrates that the student is unsuited for nursing, for unsafe practice, and/or for unethical conduct in the program without having been previously warned. (See also Exclusion, above.)

Nursing (B.S.N.)

The undergraduate nursing program is designed to prepare students who, upon graduation, will begin the practice of professional nursing. The program leads to the degree of Bachelor of Science in Nursing (B.S.N.) and provides a basis for graduate study in this discipline. The curriculum consists of courses in both general and professional education and is offered with different options oriented to the varying admissions qualifications of the applicants:

- B.S.N. Direct admit for Freshmen (small cohort)
- Traditional, Second Career/Second Degree (including B.S.N. for Veterans)
- RN-B.S.N.
- RN-M.S.N. options (currently in moratorium)

Admission: B.S.N. Programs

All applications are reviewed to determine the capability of applicants to complete a Bachelor of Science in Nursing. Admission is highly competitive and is based primarily on academic performance. Prerequisite repeats are taken into account and can make an applicant ineligible to be considered for admission. Transcripts are also reviewed for full-time scholarly achievement and promise of success in this rigorous science-based curriculum.

Nursing: B.S.N. Direct Admit for Freshmen

Freshman Admission

Students in this category are presumed to be entering professional nursing for the first time. They are admitted through the Office of Undergraduate Admissions (p. 22) and complete general education/ pre-professional courses offered through the College of Liberal Arts and Sciences. The students also complete a holistic admission process though the College of Nursing. The holistic admission process includes not only a critical evaluation of these same metrics, but also includes a requirement for community service, and an essay submitted by the applicant detailing any personal attributes and experiences that the applicant feels would support their admission to the CON. The entire application packet is evaluated by an admission committee composed of faculty from the Undergraduate program. If admitted into the pathway, one prerequisite course can be taken at a community college.

Nursing: B.S.N. Second Career/Second Degree Program Admission

Applicants in this category are eligible to apply for entry into Second Career/Second Degree Bachelor of Science in Nursing Program if they

have completed a bachelor's degree in an area other than nursing and have completed the prerequisites (see below). Applicants must have completed all prerequisite courses with a grade of 'C' or better and candidates must have a minimum 3.0 grade point average in prerequisite courses to be eligible for consideration. A grade of 2.0 in the science prerequisites is also required. Effective Fall 2019, the students also complete a holistic admission process through the College of Nursing. (Note: course prerequisites must be completed at time of application).The holistic admission process includes a critical evaluation of these same metrics as well as letters of recommendation, a requirement for community service and the submission of an essay detailing any personal attributes and experiences that the applicant feels would support their admission to the College of Nursing. The entire application packet is evaluated by an admission committee composed of faculty from the Undergraduate program. Admission to the program is highly competitive; completion of prerequisites with minimum requirements does not guarantee admission.

Prerequisites (Second Career/Second Degree Program)

The following are prerequisite requirements for admission consideration to the Second Career/Second Degree Program in the College of Nursing. This set of prerequisite courses also applies to students with a bachelor's degree who are interested in pursuing the Traditional (three-year) program rather than the Second Degree Program.

Code	Title	Credits
BIO 1510	Basic Life Mechanisms [1]	4
BIO 2200	Introductory Microbiology [1]	5
BIO 2870	Anatomy and Physiology [1]	5
CHM 1020	Survey of General Chemistry [1]	4
NFS 2030	Nutrition and Health	3
PSY 2410	Health Psychology	4
or PSY 2400	Developmental Psychology	
Sociology Course (except Statistics)		
Cultural Inquiry (CI): Visual & Performing Arts or Philosophy & Letters course		

[1] Must have a lab component

RN-B.S.N. Program

The RN-B.S.N. program is geared toward Michigan-licensed registered nurses (RNs) who have completed an associate degree program or a diploma program and wish to continue their professional education. Progression into senior year clinical nursing courses is granted after completion of all prerequisite requirements. For requirements for this curriculum, see Nursing: RN to B.S.N. Completion Program (https://nursing.wayne.edu/rn-bsn).

Applicants must have completed all prerequisite courses with a grade of C or better and candidates must have a minimum 3.2 grade point average in prerequisite courses to be eligible for consideration. Completion of prerequisites with minimum requirements does not guarantee admission.

Application to B.S.N. Programs

Application to the Bachelor of Science in Nursing programs is a dual application process.

Step I - Application to Wayne State University: If the applicant is not already a Wayne State University student, he/she should submit an application prior to the stated deadline to the Office of Undergraduate Admissions and submit all required documentation and materials (including transcripts from all post-secondary institutions attended). All final transcripts for prerequisites completed during the winter semester must be submitted by June 1. Applicants must meet all the general requirements for undergraduate admission (p. 22) to the University.

Step II - Application to the College of Nursing: Applicants must submit to the College of Nursing Office of Student Affairs the on-line Application for Admission to the Bachelor of Science in Nursing Program. Applications must be submitted by the deadline. Freshman applicants will need to review the College of Nursing website for instructions. Official copies of all transcripts from all high school and post-secondary institutions attended, and any other required documentation (test scores, etc.) must be received in the Office of Student Affairs by June 1, not postmarked by that date.

Application Fees: All Traditional Bachelor of Science in Nursing and Second Career/Second Degree Bachelor of Science in Nursing applicants must submit a $50.00 non-refundable application fee. The application fee is due at the time of application.

Application Deadlines: All admission materials listed above must be received in the appropriate offices by the program application deadline.

For students enrolled in prerequisite coursework during the admission process, evidence of completion of all prerequisites must be received by the College of Nursing Office of Student Affairs no later than June 1.

Non-native English-speaking candidates must submit Internet-Based Test of English as a Foreign Language (TOEFL) scores to the College of Nursing; a minimum total score of 101 is required, with minimum scores of 25 in listening, 25 in reading, 25 in writing and 26 in speaking.

Readmission

Nursing students whose attendance in the nursing clinical sequence of the undergraduate curriculum has been interrupted for more than one academic year must request reinstatement to the College of Nursing. Contact the College of Nursing Office of Student Affairs for application materials and deadline dates. There is no assurance that a student can be reinstated once the student withdraws from the program or does not progress in the program within the specified time limitations.

Enrollment in Professional Nursing Courses

1. Admission to the College of Nursing and successful completion of all prerequisites/corequisites identified for nursing courses.
2. Health Clearance

   Students admitted to the College are required to have a valid clinical permit. The health clearance must indicate that the student is in good health, free from communicable disease, and able to engage in a rigorous professional program with extensive clinical experiences. Health requirements are specified on the clearance form; some must be repeated yearly. Verification of compliance must be supplied annually to CastleBranch Immunization Tracker prior to deadline.

   Throughout the program students must maintain a level of health consistent with meeting the objectives of the curriculum and practicing nursing safely. If a health problem occurs during a student's educational program, the faculty member responsible for clinical practice will assess the student's ability to continue in the program and will make recommendations for action to the Associate Dean for Academic and Clinical Affairs. The University and the College reserve the right to refuse or cancel a student's admission or to restrict his/ her activities in the College if the health status indicates such action is warranted for safeguarding the patient, the student, other students, or the University.
3. Liability Insurance

The minimum amount of malpractice liability insurance acceptable is $1,000,000/$3,000,000 to cover each year of the student's nursing studies. Students must present a copy of their insurance policy from an approved insurer to the Office of Student Affairs no later than May 15 of each year. This copy must show the amount of coverage, the expiration date, and the student's name. Students may not participate in clinical courses without a copy of this policy being on file.

4. BLS (Basic Life Support) for Health Care Providers Certification

   All students must have BLS for Health Care Providers (BLS-HCP) Certification or the equivalent for entry to clinical courses. It must be updated each year and students must have current, updated certification on file with CastleBranch Immunization Tracker by the deadline.

5. Criminal Background and Drug Testing History

   Students admitted to the College of Nursing are required to have a Criminal Background Investigation and a ten panel drug test completed prior to beginning nursing courses. The urine drug screen must be completed by the Campus Health Center. The Criminal Background Investigation is intended to discover if the applicant has had a felony conviction in the fifteen years prior to application, or a conviction of a misdemeanor involving abuse, neglect, assault, battery, or criminal sexual conduct in the ten years prior to application. Conviction of either the felony or certain types of misdemeanor violations, as outlined, prohibits the student from participation in clinical courses.

6. Alliance for Clinical Education (ACE)

   All undergraduate students are required to participate in the Michigan Health Council ACE program for clinical education and placement. Health status reports, liability insurance, BLS (Basic Life Support), criminal background checks and drug screens are tracked though the ACE and provided to participating clinical institutions. As part of the ACE program, students complete mandatory HIPPA, OSHA and blood-borne pathogen training.

Faculty are directed to deny students access to clinical experiences if the student has not met clinical clearance requirements.

Re-Entry into the Clinical Sequence of the Nursing Curriculum

Students whose progression in the clinical sequence of the program is interrupted due to unsatisfactory completion of prerequisite course work in a clinical course or to interruption in attendance in the program, must apply for re-entry into the clinical sequence. Contact the College of Nursing Office of Student Affairs for re-entry application materials. Students must file this application prior to August 1 for Fall Term re-entry, or December 1 for Winter Term re-entry. Re-entry decisions are based on the student's academic record in the program. Consideration is given to grades in prerequisite and nursing courses, length of time absent from the program, and potential for successful completion of the program. Re-entry into the clinical sequence and into the program option (traditional or second career/second degree) in which the student was previously enrolled is not guaranteed.

Registration for Classes

All students are required to register for required classes prior to attending classes. Registration procedures and schedules published in the official University Schedule of Classes (http://www.classschedule.wayne.edu). The usual full-time undergraduate program is 12-17 credits per term.

Clinical location assignments are created through the Office of Student Affairs and the Alliance of Clinical Education. Students are notified of assignments prior to registration.

Candidates for the Bachelor of Science in Nursing degree must complete the minimum 120 semester credits in course work including satisfaction of the University General Education Requirements (p. 34) and in accordance with the academic procedures of the University (p. 11) and the College (p. 318).

Residency: The last thirty credits of the degree must be taken at Wayne State University.

Grade Point Average: Students must maintain a grade point average (g.p.a.) of at least 2.0 in total residence credit and in all nursing courses.

Curriculum and Program Requirements: A student must complete all curriculum and program requirements, remove any marks of 'I' or 'Y', and be recommended by the faculty for the B.S.N. degree. Student must complete the required minimum number of credits, elect courses in the proper sequence in the appropriate curriculum (as shown below), and satisfy all course prerequisites or corequisites.

Professional and General Education Requirements for the Traditional B.S.N. Program

The following curriculum outlines the minimum of 120 semester credits required for the Bachelor of Science in Nursing, including 68 credits in nursing major courses.

First Year		
Fall Semester		**Credits**
BIO 1510	Basic Life Mechanisms	4
CHM 1020	Survey of General Chemistry	4
PSY 1020 or PSY 1010	Elements of Psychology or Introductory Psychology	3
Quantitative Experience (QE)		3
	Credits	14
Winter Semester		
BIO 2870	Anatomy and Physiology	5
ENG 1020	Introductory College Writing	3
PSY 2410 or PSY 2400	Health Psychology or Developr Psycholc	4
NFS 2030	Nutrition and Health	3
	Credits	15
Second Year		
Fall Semester		
NUR 2010	Health Assessment: History Taking and Physical Examination	3

NUR 2030	Pathophysio Related to Nursing Practice	3
NUR 2060	Nursing Implications of Drug Administration	3
ENG 3010	Intermediate Writing	3
	Credits	12

Winter Semester

NUR 2050	Supportive Measures for Basic Care Needs	5
NUR 2995	Foundations of Professional Nursing	3
NUR 3405	Introduction to Nursing Research and Evidence-Based Practice	3
BIO 2200	Introductory Microbiology	5
	Credits	16

Third Year

Fall Semester

NUR 3010	Restorative Care of Adults and Elders with Acute Illness	5
NUR 3015	Restorative Care: Psychiatric Mental Health Nursing Across the Lifespan	5
NUR 4300	Nursing Informatics	3
Cultural Inquiry		3
Social Inquiry (SI)		3
	Credits	19

Winter Semester

NUR 3020	Restorative Care of Adults and Elders with Chronic Illness	5
NUR 4010	Integrative Care of Children and Their Families	5
NUR 4800	Transcultural Health Through the Life Cycle	3
Diversity, Equity and Inclusion (DEI)		3
	Credits	16

Fourth Year

Fall Semester

NUR 4020	Integrative Care of the Perinatal Family	5
NUR 4040	Leadership and Management in Nursing Practice	4
Oral Communication (OC)		3
Civic Literacy (Civ)		3
	Credits	15

Winter Semester

NUR 4050	Theory of Caring for Complex, Critically Ill Patients	3
NUR 4060	Synthesis of Core Nursing Knowledge	5
NUR 4120	Community Focused Nursing Practice	5
	Credits	13
	Total Credits	120

Professional Requirements for the Second Career/Second Degree B.S.N. Program

In addition to the pre-nursing requirements for the Second Career/Second Degree Program (see Nursing: B.S.N. Second Career/Second Degree Program Admission) the following professional educational courses are required, in addition to a minimum of sixty-five credits in prior baccalaureate and pre-nursing requirements:

Code	Title	Credits
First Semester (Spring/Summer)		
NUR 2010	Health Assessment: History Taking and Physical Examination	3
NUR 2030	Pathophysiology Related to Nursing Practice	3
NUR 2060	Nursing Implications of Drug Administration	3
Second Semester (Fall)		
NUR 2050	Supportive Measures for Basic Care Needs	5
NUR 2995	Foundations of Professional Nursing	3
NUR 3405	Introduction to Nursing Research and Evidence-Based Practice	3
Third Semester (Winter)		
NUR 3010	Restorative Care of Adults and Elders with Acute Illness	5
NUR 3015	Restorative Care: Psychiatric Mental Health Nursing Across the Lifespan	5
NUR 4020	Integrative Care of the Perinatal Family	5
Fourth Semester (Spring/Summer)		
NUR 3020	Restorative Care of Adults and Elders with Chronic Illness	5
NUR 4010	Integrative Care of Children and Their Families	5
NUR 4040	Leadership and Management in Nursing Practice	4
Fifth Semester (Fall)		
NUR 4050	Theory of Caring for Complex, Critically Ill Patients	3

NUR 4060	Synthesis of Core Nursing Knowledge	5
NUR 4120	Community Focused Nursing Practice	5
Total Credits		62

Nursing: RN to B.S.N. Completion Program

Requirements: All students must achieve a grade of C or better in all courses cited below. A cumulative grade point average of 2.00 or above must be maintained. These courses may not be taken for Passed-Not Passed grades.

Admission to Senior Standing: All RN students must file an Application for Admission to Senior Standing by the appropriate deadline. Upon admission to Senior Standing, RN students will receive thirty three credits for having successfully passed NCLEX examination validated by a current license to practice in the State of Michigan.

Completion of the following courses (or equivalents) is required for admission to Senior Standing.

Code	Title	Credits
BIO 1510	Basic Life Mechanisms (Laboratory)	4
BIO 2200	Introductory Microbiology (Laboratory)	5
BIO 2870	Anatomy and Physiology (Laboratory)	5
CHM 1020	Survey of General Chemistry (Laboratory)	4
ENG 1020	Introductory College Writing	3
PSY 1010	Introductory Psychology	4
PSY 2400	Developmental Psychology	4
SOC 1010	Understanding Human Society	3
or ANT 1100	Introduction to Anthropology	

RN to B.S.N. Program: Senior Level Professional and General Education Requirements

In addition to the prerequisites for admission to Senior Standing listed above, the following upper-level professional nursing courses are required. The remaining General Education Requirements and liberal arts credits comprise the balance of the minimum 121 credits required for the Bachelor of Science in Nursing; these courses may be taken prior to the upper-level professional work. The balance of general education courses (taken at Wayne State University or a community college) equals 58 credits of course work. At least thirty-four credits in course work, which includes the 30 credits listed below, must be taken at Wayne State University.

First Year		
Fall Semester		**Credits**
NUR 2070	Professional Nursing in the Future: Strategies for Health Promotion	3
NUR 3405	Introduction to Nursing Research and Evidence-Based Practice	3
	Credits	6
Winter Semester		
NUR 2010	Health Assessment History Taking and Physical Examination	3
NUR 4600	Gerontological Nursing Perspectives in Health and Illness	3
	Credits	6
Spring/Summer Semester		
NUR 4120	Community Focused Nursing Practice	5
	Credits	5
Second Year		
Fall Semester		
NUR 4300	Nursing Informatics	3
NUR 4800	Transcultura Health Through the Life Cycle	3
	Credits	6
Winter Semester		
NUR 4040	Leadership and Managemen in Nursing Practice	4
NUR 4505	Professional Nursing in the Future: Current Issues for Professional Practice RN-BSN	3
	Credits	7
	Total Credits	30

Nursing: B.S.N. Honors Program

The College of Nursing Honors program offers a challenging and rewarding opportunity for students to further pursue their interests in the field of nursing. The Honors program is open to all students seeking their Bachelors of Science in Nursing and requires that students graduate with a GPA of 3.5. Completion of the honors program requirements results in an honors degree designation on the diploma. Interested students should contact their advisor in the Office of Student Affairs.

Departmental Honors Requirements

In addition to the stated requirements for a Bachelor's of Science in Nursing, to earn Departmental Honors, students must complete the Honors Assignments associated with the Honors 1, 2, and 3 courses as outlined in the NURH Guidelines. In fulfilling these requirements, they *must* also complete an HON 42XX course that will count towards their accumulation of 12 Honors hours. While honors students must accumulate a minimum of at least 12 credits of Honors courses, nursing students typically accumulate 12-19 honors credits.

College of Nursing Faculty

ABERLE, BELINDA: M.S.N., University of Michigan; B.S.N., Boston University; Instructor (Clinical)

ALBDOUR, MAHA: Ph.D., M.S.N., Wayne State University; B.S.N., University of Jordan; Assistant Professor

ALHASANAT-KHALIL, DALIA: Ph.D., Wayne State University; B.S.N., University of Jordan; Assistant Professor

ARTINIAN, NANCY: Ph.D., M.S.N., Wayne State University; B.S.N., Mercy College of Detroit; Professor Emerita

ASHARE, JOANN: M.S.N., B.S.N., Wayne State University; Instructor (Clinical)

BALINT, KATHERINE: D.N.P., Wayne State University; M.S.N., Madonna University; B.S.N., Nazareth College; Assistant Professor (Clinical)

BELL, CYNTHIA: Ph.D., M.S.N., Indiana University; B.S.N., Indiana Wesleyan University; Assistant Professor

BENKERT, RAMONA: Ph.D., University of Michigan; M.S.N., Wayne State University; B.S.N., Mercy College of Detroit; Associate Professor

BICKES, JOAN: D.N.P., M.S.N., Wayne State University; B.S.N., University of Detroit Mercy; Clinical Assistant Professor

BILLINGSLEY, SUZANNE: D.N.P., M.S.N., B.S.N., Wayne State University; Instructor (Clinical)

CAMPBELL, MARGARET: Ph.D., University of Michigan; M.S.N, B.S.N., Wayne State University; Professor (Research)

CARROLL, LYNETTE: M.S.N, B.S.N., Wayne State University; Instructor (Clinical)

CARTER, ERIK: Ph.D., M.S.N., University of California - San Francisco; B.S.N., University of Phoenix; Assistant Professor (Clinical)

CLABO, LAURIE LAUZON: Ph.D., University of Rhode Island; MN, Dalhousie University; B.S.N., University of Windsor; Professor

DARAMOLA, OLUBUNMI: Ph.D., University of Michigan; M.S.N., Wayne State University; B.N.Sc., University of Ife; Assistant Professor (Clinical)

DIVER-SPRUIT, JESSICA: D.N.P., Case Western University; M.S.N., Rush University; B.S.N., Michigan State University; Instructor (Clinical)

EDWARDS, WANDA: D.N.P., M.S.N., B.S.N., Wayne State University; Instructor (Clinical)

EKWESE, GORJI: D.N.P., B.S.N., Wayne State University; Instructor (Clinical)

FALAHEE, MARGARET: D.N.P., Wayne State University; M.S.N., Universityof Michigan; B.S.N., Northern Michigan University; Clinical Assistant Professor

FARNER, JULIA: D.N.P., Wayne State University; B.S.N., Michigan State University; Instructor (Clinical)

FRY-MCCOMISH, JUDITH: Ph.D., M.S.N., Wayne State University; B.S.N., Indiana University; Associate Professor Emerita

GEIGER, CAROL: D.N.P., Wayne State University; B.S.N., University of Detroit-Mercy; Instructor (Clinical)

GEORGE, NANCY: Ph.D., M.S.N., University of Michigan; B.S., Michigan Tech University; Associate Professor (Clinical)

GIBSON-SCIPIO, WANDA: Ph.D., Michigan State University; M.S.N., B.S.N., Wayne State University; Clinical Assistant Professor

HAMEISTER, DAWN: Ph.D., University of Michigan; M.S.N, B.S.N., Wayne State University; B.A., Albion College; Associate Professor Emeritus

HARRIS, ANTHONY: M.S.N, B.S.N., University of Phoenix; Instructor (Clinical)

HARTWELL-KING, KATHLEEN: D.N.P., Wayne State University; B.S.N., Eastern Michigan University; Instructor (Clinical)

HAUFF, NANCY: Ph.D., M.S.N, B.S.N., Wayne State University; Instructor (Clinical)

HAZARD VALLERAND, APRIL: Ph.D., University of Pennsylvania; M.S.N., California State University, Los Angeles; B.S.N., Mt. St. Mary's College; Professor

HERRINGTON, CAROLYN: Ph.D., M.S.N, Wayne State University; B.S.N., Michigan State University; Assistant Professor

KOLLER-DITTO, NOEL: M.S.N., University of Detroit-Mercy; B.S.N., Sienna Heights University; Instructor (Clinical)

KOWALEWSKI, KATHLEEN: M.S.N, University of Pennsylvania; B.S.N., Mercy College of Detroit; Instructor (Clinical)

LEROY, SARAH: D.N.P., M.S.N., Wayne State University; B.S.N., Michigan State University; Instructor (Clinical)

LEWIN, LINDA: Ph.D., University of Toledo; M.S.N., The Ohio State University; B.S.N., Capital University; Assistant Professor

MALINOWSKI, CHRISTINE: D.N.P., B.S.N., Wayne State University; Instructor (Clinical)

MCCOY, MARY ANNE: Ph.D., Michigan State University; M.S.N., Oakland University; B.S.N., Mercy College of Detroit; Clinical Assistant Professor

MCNEILL, CYNTHERA: D.N.P., Wayne State University; B.S., Coppin State University; Instructor (Clinical)

MILLER, MARGIE: M.S.N., B.S.N., Wayne State University; Clinical Instructor

MOOD, DARLENE: Ph.D., M.A., Wayne State University; B.M.Ed., Roosevelt University; Professor Emeritus

MOONEY, MICHAEL: D.N.P., Wayne State University; B.S.N., University of Detroit-Mercy; Instructor (Clinical)

MURN, NICOLE: D.N.P., Wayne State University; B.S.N., Madonna University; Instructor (Clinical)

NANTAIS-SMITH, LEANNE: Ph.D., M.S.N., Wayne State University; M.A., B.S.N., B.A., Michigan State University; Clinical Assistant Professor

NATAVIO, TEOFANES: M.S.N., Eastern Michigan University; B.S.N., Oakland University; Clinical Instructor

OLIVER-MCNEIL, SANDRA: D.N.P., M.S.N., Wayne State University; B.S.N., Michigan State University; Clinical Assistant Professor

OLSEN, KAREN: M.S.N., Wayne State University; B.S.N., University of Michigan; Instructor (Clinical)

PARKER, JESSICA: M.S.N., Wayne State University; B.S.N., University of Michigan; Clinical Instructor

PASTOR, JESSICA: M.S.N., B.S., Wayne State University; B.S.N., University of Detroit Mercy; Clinical Instructor

PETERS, ROSALIND: Ph.D., M.S.N., Wayne State University; B.S.N., Madonna College; Associate Professor

PIEPER, BARBARA: Ph.D., M.S.N., Wayne State University; B.S.N., Michigan State University; Professor

RICE, VIRGINIA: Ph.D., M.A., University of Michigan; M.S.N., Wayne State University; B.S., Boston University; Professor Emeritus

SCHUTTE, DEBRA: Ph.D., M.S.N., B.S.N., The University of Iowa; Associate Professor

SMOLENSKI, STEFAN: D.N.P., B.S.N., Wayne State University; Instructor (Clinical)

STANLEY, CHANTA: D.N.P., B.S.N., Wayne State University; Clinical Instructor

TEMPLIN, THOMAS: Ph.D., M.A., B.A., Wayne State University; Professor (Research)

VILLASENOR, SALLY: D.N.P., M.S.N., B.S.N., Wayne State University; B.A., Albion College; Clinical Assistant Professor

VISGER, JOAN: M.S.N., University of Phoenix; B.S., Wayne State University; Clinical Assistant Professor

WALKER, DEBORAH: Ph.D., University of California, Los Angeles; M.S.N., University of Minnesota; B.S.N., Sonoma State University; Associate Professor

WALKER, TARA: D.N.P., Wayne State University; B.S.N., University of Rochester; Clinical Instructor

WASHINGTON, OLIVIA: Ph.D., Wayne State University; M.S.N., B.S.N., State University of New York at Buffalo; Associate Professor Emeritus

WILLIAMS, BARBARA: M.A., Central Michigan University; B.S.N., Mercy College of Detroit; Clinical Instructor

WILSON, FELETA: Ph.D., Wayne State University; M.P.H., University of Michigan; B.S.N., North Carolina Agricultural and Technical State University; Associate Professor

YARANDI, HOSSEIN: Ph.D., M.A., Indiana University; B.S., Tehran University; Professor

ZIMNICKI, KATHERINE: D.N.P., M.S.N., Wayne State University; B.S.N., Mercy College of Detroit; Clinical Assistant Professor

ZUGCIC, MARY: M.S., B.S.N., University of Michigan; Clinical Instructor

EUGENE APPLEBAUM COLLEGE OF PHARMACY AND HEALTH SCIENCES

Interim Dean: Catherine Lysack

In 1890, the Detroit College of Pharmacy was founded as a program in the Detroit Medical College, the forerunner of the Wayne State University School of Medicine. The Detroit College of Pharmacy later separated from its parent institution, operated independently for two years, and in 1907, affiliated with the Detroit Institute of Technology. In response to the urging of Detroit area pharmacists another program was developed from the six-year course in pharmacy established at Cass Technical High School into a new College of Pharmacy organized by the Detroit Board of Education in 1924. This College of Pharmacy and the Detroit Board of Education's Colleges of Medicine, Education, Liberal Arts, Engineering and Graduate School were united in 1933 into a university called the College of the City of Detroit and named Wayne University in 1934. In 1957, one year after Wayne University became Wayne State University, the College of Pharmacy at the Detroit Institute of Technology joined the College of Pharmacy at Wayne by merging into Wayne State University's system of schools and colleges.

In 1974, Pharmacy merged with the Division of Allied Health to form a college devoted to educating the modern health care team. Mortuary Science, which was started as a unit of the School of Business Administration in 1943, evolved into a separate department and eventually became part of the College of Pharmacy and Allied Health Professions in 1985. In 2002 the College changed its name to the Eugene Applebaum College of Pharmacy and Health Sciences to recognize the contributions of Eugene Applebaum, a 1960 alumnus of the college's pharmacy program, and occupied the new facility which opened in 2002. In 2003 the College reorganized from nine departments to the four departments that exist today.

The College occupies a state-of-the-art facility, located on the campus of the Detroit Medical Center, one of the Midwest's leading centers for healthcare, research, and education. The Center boasts a high concentration of health professionals including the faculty and students of the Wayne State University School of Medicine, one of the nation's largest medical schools. The Eugene Applebaum College of Pharmacy and Health Sciences is designed to provide students with the latest tools to prepare them for health careers in the new economy.

Mission and Vision

The College mission is to advance the health and well-being of society through the preparation of highly-skilled health care practitioners, and through research to discover, evaluate, and implement new knowledge to improve models of practice and methods of treatment in pharmacy and health sciences in ways of both local and global relevance.

Our vision is to serve as a preeminent model for learning, scholarship, and engagement impacting health, safety, and well-being worldwide through leadership, innovation, and the interconnectedness of our disciplines.

The College offers a variety of undergraduate, graduate-professional, and graduate programs designed to provide advanced-level professional training, basic research, and scholarly activities in the various health science fields. Detailed information on each program may be found in the Departmental sections.

College Organization

The Eugene Applebaum College of Pharmacy and Health Sciences is organized into four academic departments: Applied Health Sciences; Health Care Sciences; Pharmacy Practice; and Pharmaceutical Sciences. Academic programs exist within each department as follows:

Department of Applied Health Sciences

Clinical Laboratory Science

Students in clinical laboratory science learn the scientific principles and theories behind many laboratory tests performed to aid in the diagnosis of disease. During the latter part of the curriculum students become proficient in the performance of these tests and familiar with practical aspects of the clinical laboratory. This work is indispensable to effective patient care because results of laboratory analysis often establish a basis for diagnosis which must be made before treatment can be instituted.

Forensic Investigation

This is a post-bachelor's certificate program designed for students who have obtained a degree in another discipline from an accredited college or university who wish to acquire competence in the area of forensic investigation. The program is not designed to train forensic investigators; rather, its aim is to educate personnel whose professional scope and practice interface with the criminal justice system.

Mortuary Science

The program in mortuary science prepares students for a career in funeral service. The curriculum provides the study of the fundamentals of applied biological and physical sciences as background for understanding techniques and procedures applicable to the preparation and disposition of human bodies and to public health and safety measures. Other areas of study include a thorough understanding of the theory and a proficiency in the practice of the technical skills pertinent to funeral service and the instillation of high standards of ethical conduct required to foster and uphold the dignity of funeral service.

Pathologists' Assistant

The pathologists' assistant program trains personnel to assist the pathologist in the performance of postmortem examinations and in the preparation of surgical specimens for study. Additional training prepares the student to take responsibility for tasks designated by a supervising pathologist such as budgetary, superintendence, and teaching duties.

Department of Health Care Sciences

Nurse Anesthesia

he nurse anesthetist is a specialist with extensive education and training in Nurse Anesthesia leading to a Master of Science degree in Anesthesia. Graduates must take and pass a national certification examination to be granted a specialty license and title of Certified Registered Nurse Anesthetist (CRNA) and are re certified every two years. CRNAs are qualified to provide all types of anesthesia services to adults, children, and infants for any type of surgical interventions. They are employed in major teaching, and tertiary care institutions, trauma, community, and rural hospitals. CRNAs also function as a key member on the cardiopulmonary resuscitation team and are responsible for care of patients in respiratory distress to establish and secure a patent airway. This program is offered only at the graduate level and students should consult the Graduate Bulletin.

Occupational Therapy

The occupational therapy program prepares the student to assume clinician, researcher, educator, and consultative roles that assist individuals who are limited in the ability to perform tasks required in normal routines of daily living: self-care, work, and play/leisure. The entry level Master's Degree in Occupational Therapy incorporates undergraduate and graduate education. Students learn theoretical

concepts and their application related to the restoration, development, and maintenance of physical, psychological, social, emotional, and cognitive functions. The theory-based curriculum includes instruction in the use of specific evaluative procedures; the application of a wide variety of activities related to daily living tasks, including creative and manual skills; and the procedures for functioning as a member of a health care team. The occupational therapist's goal is to promote meaningful occupations and maximize functional independence in collaboration with the client. This program is offered only at the graduate level and students should consult the Graduate Bulletin for details.

Physical Therapy

Physical Therapy is a dynamic health profession that develops, coordinates and utilizes selected knowledge, skills and techniques in planning, organizing and directing programs for the care of individuals whose ability to function is impaired or threatened by disease or injury. The practice of physical therapy includes: examination, evaluation, diagnosis, prognosis, intervention, and analysis of outcomes.

Physical Therapists provide services to patients/clients who have impairments of body function and structure, activity limitations or participation restrictions or changes in physical function and health status resulting from injury, disease or other causes. Physical therapists must be able to collaborate with a variety of professionals, address risk factors to health, be leaders and providers in the areas of prevention and promoting health, wellness and fitness, serve as educators, consultants, administrators and advocates, utilize critical inquiry skills and direct and supervise the provision of physical therapy services (Guide to Physical Therapist Practice, APTA, 2003).

Some examples of diagnoses of individuals who might be seen by a physical therapist include stroke, low back pain, ACL knee injury, Parkinson's Disease, spinal cord injury, amputation, heart attack, athletic injury, arthritis, cerebral palsy, rotator cuff (shoulder) injury, total joint replacement, spina bifida, general health and personal training, congestive heart failure, emphysema, cancer, head injury, multiple sclerosis, learning disabilities, speed and agility training, and many more. This program is offered only at the graduate level and students should consult the Graduate Bulletin for details. Wayne State students may apply to the program with 90 undergraduate credit hours if all other pre-requisite courses are completed.

Physician Assistant Studies

The mission of the physician assistant studies program is to train highly-qualified physician assistants for primary care in inner-city and other under-served areas of the State of Michigan. This is a graduate-level program designed to meet the need for qualified medical professionals; it is two years in length, and classes begin in May of each year. Interested students should consult the Graduate Bulletin for details.

Radiation Therapy Technology

This health care discipline utilizes ionizing radiation for the treatment of malignant disease. This field requires a basic understanding of and interest in science, especially mathematics and physics, as well as emotional maturity and a desire to assist in the management of patient care. The program is a four-year curriculum consisting of two years of pre-professional and two years of professional course work.

Radiologic Technology

Radiologic Technology is a health care discipline that utilizes ionizing radiation for the diagnosis of disease processes in the human body. This field requires a basic understanding of mathematics and science and a desire to serve patients. As a radiographer, one has the opportunity to combine interpersonal and patient assessment skills while employing highly technical equipment. A diagnostic radiologic technologist is able to formulate exposure factors dependent on procedure, pathology and individual patient dynamics; assist radiologists in more invasive procedures such as fluoroscopic studies; evaluate images for quality and accuracy; and provide support to patients anxious about their health. These technologists are typically employed in hospitals, clinics, educational institutions, and commercial equipment corporations as staff radiographers, clinical supervisors, administrators, educators, marketing personnel and applications specialists.

Department of Pharmacy Practice

The Department of Pharmacy Practice prepares students for entry into the pharmacy profession through coursework in the applied use of drug therapy in the treatment and prevention of human disease, provision of patient-centered care in clinical practice environments, and conducts research related to the rational use, delivery, and access to drugs and other therapeutic modalities. Pharmacy Practice also includes service and leadership to the University and profession of pharmacy and the public related to education and the optimal use of medications.

Department of Pharmaceutical Sciences

The Department of Pharmaceutical Sciences shares responsibility for the Doctor of Pharmacy program with the Department of Pharmacy Practice. Teaching and learning in the Pharm.D. program are is designed for the graduate to improve human health, wellness and safety. The Pharmaceutical Sciences span from basic to multidisciplinary and translational aspects of human health, including the conception, discovery, formulation, delivery, action and safety of therapeutic medicines and other agents. Ph.D. and M.S. programs specializing in medicinal chemistry, pharmaceutics and pharmacology / toxicology provide a stimulating and supportive environment for advanced education and for the successful completion of original research projects. Ph.D. candidates receive Graduate Research Assistantships consisting of competitive stipends, remission of tuition and full health insurance. The department is home to research-intensive programs of study covering a wide range of specialized areas for outstanding postdoctoral fellows and undergraduates. Department members provide much-needed expertise to organizations that are committed to the treatment and prevention of human disease, and to advancing the health and safety of animals and the environment. They are leaders in their service to the University and the professions of pharmacy and pharmaceutical sciences through research, education and outreach. Graduates of these programs are changing the world, one step at a time, through a rich academic tradition founded upon prizing excellence, extending collegiality and making a difference locally and globally.

Accreditation

The Higher Learning Commission accredits Wayne State University and professional programs in this College are accredited by their respective agencies. Please visit program tabs to see individual accreditation information or visit Accreditation (p. 17).

Academic Regulations: College of Pharmacy and Health Sciences

For complete information regarding academic rules and regulations of the University, students should consult the Academic Regulations (p. 11) section of this bulletin. The following additions and amendments pertain to health sciences students.

Academic Regulations Terminology

1. *Professional course* means any course required in the Pharm.D., D.P.T. or M.O.T curriculum and any course approved for professional elective credit and elected by the student for that purpose.
2. *Satisfactory grade* means a grade of C or above, or a grade of S.

3. *Unsatisfactory grade* means a grade of C-minus or below 2.0 grade points, or a mark of X or unauthorized W Marks of X or marks of W which have not been authorized will be treated as an E.
4. *Probation* means a restricted status in the program (see below).
5. *Dismissal* from the program means that the student may no longer register in the program or elect professional course work. Continued registration in the University requires that a Change of Status to another program be initiated by the student.

Academic and Professional Progress

The College expects its students to develop professional competence and to satisfy the same high standards of exemplary character, appearance, and ethical conduct expected of health care professionals. To merit confidence and esteem, both personally and in the health care professions, appropriate dress and demeanor are expected of each student in their respective academic and professional program.

Each program has a process or committee in place to review student performance regularly and makes decisions concerning probationary status. A student may be dismissed from the College at any time for an unsatisfactory academic or professional record, for irresponsible attendance, or other failures to diligently pursue the academic and professional program.

Outside Employment

The curriculum has been arranged with the presumption that the student will devote full time and energy to their academic program. Internships, fieldwork and other pharmaceutical employment are recognized as an integral part of the academic and professional growth of a pharmacy or health science student. The student, however, is responsible for maintaining the appropriate balance between such activity and satisfactory achievement in the classroom.

Attendance

Regularity in attendance and performance is necessary for success in college work. At the beginning of each course the instructor will announce and/or include in the syllabus the specific attendance required of students as part of the successful completion of the course. Effective Fall semester 2016, a new policy requires students to respond to a request for course participation (http://reg.wayne.edu/gotoclass.php) confirmation.

Admission to Pre-professional Programs

Pre-professional programs in clinical laboratory science, mortuary science, occupational therapy, pharmacy, physical therapy, radiation therapy technology and radiologic technology are taken in the College of Liberal Arts and Sciences and students apply for admission to that College, and fulfill requirements for general undergraduate admission (p. 22) to the University. The Office of Admissions is located in the University Welcome Center, Wayne State University, Detroit, Michigan 48202; telephone: 313-577-3577. Admissions counselors are available for personal conferences to aid the prospective student.

Admission to Professional Programs

All professional programs in the College are limited in the number of applicants that can be accepted. This limitation is created not only by the number of faculty members available but also by the number of positions available in health care facilities where much of the field work experience is conducted at a 1:1 or 1:2 faculty-to-student ratio.

Students are admitted to the professional program annually. Since each program has special requirements for admission, students are urged to attend one of the monthly Information Meetings (http://www.cphs.wayne.edu/meetings.php) (mandatory for some programs) for advising and application deadline dates a year before they plan to enter. Individuals can register for the free monthly Information Meetings online. Students are to check with each program to verify the deadline date for admission to that program.

For admission to the professional programs in the College, applicants must have completed all equivalent pre-professional courses and other requirements. Students admitted to the professional program usually have a grade point average of 2.5 ('A' = 4.0) or better.

Although academic achievement is important, personal qualities and professional behaviors are considered of equal importance since the students selected will eventually be working as members of a team in the delivery of health care. Therefore, criteria for selection are also based on such qualities as maturity, motivation, knowledge of the profession, ability to communicate, personal integrity and empathy for others. Consequently, evaluations from faculty and academic advisors, as well as a personal interview, are given great weight in the selection of candidates by admissions committees.

Academic Advising

A staff of academic advisors is available in the University Advising Center, 1600 Adamany Library, for students interested in health sciences professions.

Students, during their sophomore year, should confer with the professional program advisor of the health sciences profession of their choice, during attendance at one of the Monthly Information Meetings, whenever they have questions about degree requirements, academic regulations, course elections, programs of study, or difficulties in their academic work. Course elections are arranged in consultation with the professional program advisors.

Normal Program Load

The requirements for graduation are based upon a normal program of fifteen credits per semester for eight to ten semesters. Because courses are of varying length, students cannot always arrange programs of exactly fifteen credits; hence the normal load is fourteen to eighteen credits.

Academic Misbehavior

Academic Honesty: Students are expected to abide by the principle of honesty which is fundamental to the life of a scholarly community. If any act of academic misbehavior, which includes cheating, plagiarism, or other acts are discovered, the instructor is expected to take appropriate action, which can include one or more of the following: reprimand, repeat of assignment, a failing grade for the assignment, a failing grade for the course. Serious acts of dishonesty can lead to suspension or dismissal.

In any instance of academic misbehavior occurring in any course offered by the Eugene Applebaum College of Pharmacy and Health Sciences, as defined in section 2 of the WSU Student Code of Conduct (http://www.doso.wayne.edu/assets/codeofconduct.pdf), the provisions of Section 10.1 of the Student Code of Conduct will be implemented as follows:

The faculty member may, without filing a charge, adjust the grade downward (including downgrading to a failing grade) for the test, paper, or other course-related activity in question, or for the entire course. In any case, the faculty member shall provide the student with a copy of section 10.1 of the Student Code of Conduct and a copy of the member prepared

by the Ombudsperson, explaining the Ombudsperson's role, referred to in section 1.5 of the Student Code of Conduct.

Academic misbehavior policies of individual programs may vary from the above. Please see individual program for more information.

Probation

If a student's work falls below the required cumulative g.p.a. for professional studies, he/she will be placed on probation. If a student incurs a serious grade point deficiency in a semester, or remains on probation for more than one semester, he/she will not be allowed to re-register in the College unless he/she obtains permission from his/ her respective program or department. Such permission will be granted only after an appraisal of the student's situation and some assurance from the student that the previous causes of failure will not prevail in the proposed program.

Program Probation: A student whose semester g.p.a. falls below the required average will be placed on program probation. Each student must meet the academic and probationary requirements of his or her program.

Removal of Probation: The student will be removed from probation at the end of any semester in which he/she achieves a satisfactory overall g.p.a. as determined by the program.

Please see individual programs for more detailed information on program probation and dismissal policies.

Student Rights and Responsibilities

The College and its faculty reserve the right to dismiss a student at any time who does not appear to be suited for the work or whose conduct or academic standing is regarded as unsatisfactory. Students are urged to review the specific policies of their respective program or department.

Grade Appeals

Official Policies and Procedures
College Policy No. 89.01 FINAL COURSE GRADE APPEALS

Approved 4/30/2013, Correction 3/26/15, UPDATED August 14, 2015, Adopted September 16, 2015

Modifications April 26, 2016, Approved September 28, 2016, **Provost Office addendum September 13, 2017. Provost Office updates July 12, 2018 and November 13, 2018.**

THIS VERSION REPLACES AND SUPERSEDES ALL PRIOR VERSIONS OF FINAL COURSE GRADE APPEALS POLICY. This policy is effective immediately for final course grades received for Fall 2016 and all terms going forward.

The following is the policy implemented for Final Course Grade Appeals in the Eugene Applebaum College of Pharmacy and Health Sciences. At the beginning of each term, the instructor is to inform students in writing of the criteria used in arriving at grades for the class including the relative importance of prepared papers, quizzes and examinations, class participation and attendance. Where student performance in other practical and structured activities is relevant in evaluating professional competency, criteria used in such evaluations should be stated. Written materials should be graded in a timely manner and such materials, together with comments and an explanation of grading criteria, are to be made available to students. Students should be encouraged to discuss any class related problems with the instructor.

Instructors are expected to evaluate student work according to sound academic standards.

Equal expectations should be required of all students in a class (although more work is expected from graduate students than from undergraduates) and grades should be assigned without departing from announced procedures.

It is the instructor's prerogative to assign grades in accordance with his or her academic and professional judgment and the student assumes the burden of proof in the appeals process. Grounds for appeals are:

1. the application of non-academic criteria in the grading process, as listed in the university's non-discrimination/affirmative action statute: race, color, sex (including gender identity), national origin, religion, age, sexual orientation, familial status, marital status, height, weight, disability, or veteran status;
2. sexual harassment or discrimination; or
3. evaluation of student work by criteria not directly reflective of performance relative to course requirements.

This final course grade appeal policy does not apply to allegations of academic misbehavior. Academic misbehavior matters are addressed by Section 10.1 of the WSU Student Code of Conduct (https://doso.wayne.edu/pdf/student-code-of-conduct.pdf).

Definition: Instructor - Instructor applies to full-time, fractional-time, part-time faculty as well as Graduate Teaching Assistants, Adjuncts, and Academic Staff with teaching duties.

Final Course Grade Appeals Policy and Procedure

Informal Final Course Grade Review

1. Prior to an appeal of a course final grade all issues must first be directed to the instructor of the course for consideration of resolution.
2. The initial request of a grade review should be made directly to the instructor in an informal discussion during office hours or by a requested scheduled appointment.
3. If a student has documented efforts to obtain an informal meeting with the instructor and is unable to schedule this meeting within ten calendar days the student will then have the right to proceed to a formal grade appeal within thirty calendar days following posting of the final course grade. The instructor should make every reasonable effort to meet with the student during this time period prior to a formal appeal.

Formal Final Course Grade Appeal Policy and Procedure

If the final grade in question remains unchanged after the informal final course grade review, any formal Course Grade Appeal to change the grade in question must be initiated in writing by the student within thirty calendar days following the posting of the final course grade. The Student must submit a formal written appeal to the appropriate Department Chair. This formal appeal must include a copy of the current course syllabus and a student appeal letter including detailed justification for the appeal. This documentation must explicitly state which of the three criteria of allowable rationales is applicable and how the alleged violation occurred.

Formal Final Course Grade Appeal

1. The Department Chair shall provide a time-stamped and dated copy of the formal student course grade appeal to the instructor, program director or program/department grade appeal committee. The Department Chair will then request input and/or response from the instructor, program director or the program/department grade appeal committee.
2. Student or Faculty involved in a grade appeal process may contact the University Ombudsperson at any time for assistance with any

questions associated with a grade decision or the grade appeal process.

3. The Department Chair may convene an ad hoc special review committee (or charge an existing committee) to advise on any dispute.
4. The Department Chair shall review all documentation and respond in writing to the student within thirty calendar days of receiving the formal course grade appeal. The Department Chair will place, in writing, the final decision to the student, instructor, program director, program/department grade appeal committee or the reason for any delay in decision. The decision of the Department Chair can be appealed to the Office of the Dean.
5. Appeals to the Office of the Dean must be submitted in writing within ten calendar days of the postmarked response from the Department Chair. The Dean or his/her designee must respond to the student appeal within thirty calendar days. The decision of the Dean or his/her designee is the final decision at the College level.
6. If the appeal is denied at the Dean (or designee) of the College level, and the College appeal path is exhausted, if the student wishes to continue with the grade appeal process, per the University Academic policy (https://provost.wayne.edu/academic-policy)**,** the student may request a Provost Review within 30 days of this decision. The request should be addressed to Dr. R. Darin Ellis, Associate Provost for Academic Programs. **The request should be submitted via the online form** (https://provost.wayne.edu/academic-policy)**.** For assistance with the appeal process, the student may contact the Ombudsperson (https://wayne.edu/ombuds). The student's formal appeal for Provost Review must include a copy of the current course syllabus, the initial student appeal letter including detailed justification for the appeal, the Department Chair's (or designee's) response letter, and the Dean's (or designee's) written response. The decision of the Provost or his/her designee is final. No further appeal is possible.

Dismissal Policy

College Policy No. 89.06
Established and Approved September 28, 2016

The following is the policy implemented when a student has been dismissed from a program or department in the Eugene Applebaum College of Pharmacy and Health Sciences. Specific guidelines for dismissal are available (by programs and departments) in student handbooks and in other electronic formats on program, department, and College web pages.

Combined Grade Appeal/Dismissal Policy

If the final course grade leads to dismissal, the dismissal will be considered simultaneously in the final course grade appeal process. There is no separate or additional appeal process for a dismissal based on a final course grade. This would be referred to as a "combined" appeal. In the event the combined final grade/dismissal appeal is denied by the Dean (or designee) a final appeal can be made by the student to the Provost as part of the combined grade appeal/dismissal process.

If dismissal results from an unprofessional behavior violation or other non-academic reason (https://doso.wayne.edu/conduct/nonacademic-misconduct) not addressed within the program or department student handbook, the WSU Student Code of Conduct will be applied. Academic misbehavior matters are addressed by Section 10.1 of the WSU Student Code of Conduct (https://doso.wayne.edu/pdf/student-code-of-conduct.pdf).

Definition: Instructor - Instructor applies to full-time, fractional-time, part-time faculty as well as Graduate Teaching Assistants, Adjuncts, and Academic Staff with teaching duties.

Combined Grade Appeal/Dismissal Policy and Procedure

Informal Grade Appeal/Dismissal Review

1. Prior to a combined appeal of a grade/dismissal all issues must first be directed to the instructor of the course for consideration of resolution.
2. The initial request should be made directly to the instructor in an informal discussion during office hours or by a requested scheduled appointment.
3. If a student has documented efforts to obtain an informal meeting with the instructor and is unable to schedule this meeting within ten calendar days the student will then have the right to proceed to a formal combined grade appeal/dismissal process. The instructor should make every reasonable effort to meet with the student during this time period prior to a formal appeal.

Formal Combined Grade Appeal/Dismissal Appeal Policy and Procedure

If the dismissal status remains unchanged after the informal meeting with the instructor, the formal Grade Appeal/Dismissal process must be initiated in writing by the student within thirty calendar days following the notification of the final course grade that precipitated the dismissal. The student must submit a formal written appeal to the appropriate Department Chair (or designee). This formal appeal must include a copy of the current course syllabus and a student appeal letter including detailed justification for the appeal of the dismissal.

Formal Combined Grade Appeal/Dismissal Process

1. The Department Chair (or designee) shall provide a time-stamped and dated copy of the formal student dismissal appeal to the instructor, program director or program/department appeal committee. The Department Chair (or designee) will then request input and/or response from the instructor, program director or the program/department appeal committee.
2. Student or Faculty involved in a dismissal appeal process may contact the University Ombudsperson at any time for assistance with any questions associated with a grade decision or the grade appeal/dismissal process.
3. The Department Chair (or designee) may convene an ad hoc special review committee (or charge an existing committee) to advise on any dismissal.
4. The Department Chair (or designee) shall review all documentation and respond in writing to the student within thirty calendar days of receiving the formal dismissal appeal. The Department Chair (or designee) will place, in writing, the final decision to the student, instructor, program director, program/department appeal committee or the reason for any delay in decision. The decision of the Department Chair (or designee) can be appealed to the Dean.
5. Appeals to the Dean must be submitted in writing within ten calendar days of the postmarked response from the Department Chair (or designee). The Dean or his/her designee must respond to the student appeal within thirty calendar days. The decision of the Dean or his/her designee is the final decision at the College level.
6. If the appeal is denied at the Dean (or designee) of the College level and the College appeal path is exhausted, if the student wishes to continue with the final grade/dismissal appeal process, per the University Academic policy (https://provost.wayne.edu/academic-policy), the student may request a Provost Review within 30 days of this decision. The request should be addressed to Dr. R. Darin Ellis, Associate Provost for Academic Programs. **The request should be submitted via the online form** (https://provost.wayne.edu/academic-policy)**.** For assistance with the appeal process, the student may contact the Ombudsperson (https://wayne.edu/ombuds). The student's combined grade appeal/dismissal for Provost Review must include a copy of the current course syllabus, the initial student

appeal letter including detailed justification for the appeal, the Department Chair's (or designee's) response letter, and the Dean's (or designee's) written response. The decision of the Provost or his/her designee is final. No further appeal is possible.

Dismissal Policy and Procedure

This applies to appeals of any and all dismissals that occurred because of academic, non-academic, or professional behavior violations.

Informal Dismissal Review

1. Prior to a dismissal all issues must first be directed to the instructor of the course for consideration of resolution.
2. The initial request should be made directly to the instructor in an informal discussion during office hours or by a requested scheduled appointment.
3. If a student has documented efforts to obtain an informal meeting with the instructor and is unable to schedule this meeting within ten calendar days the student will then have the right to proceed to a formal dismissal appeal process. The instructor should make every reasonable effort to meet with the student during this time period prior to a formal appeal.

Formal Dismissal Appeal Policy and Procedure

If the dismissal status remains unchanged after the informal meeting with the instructor, the formal dismissal process must be initiated in writing by the student within thirty calendar days following the notification of the action that precipitated the dismissal. The student must submit a formal written appeal to the appropriate Department Chair (or designee). This formal appeal must include a letter including detailed justification for the appeal of the dismissal.

Formal Dismissal Process

1. The Department Chair (or designee) shall provide a time-stamped and dated copy of the formal student dismissal appeal to the instructor, program director or program/department appeal committee. The Department Chair (or designee) will then request input and/or response from the instructor, program director or the program/department appeal committee.
2. Student or Faculty involved in a dismissal appeal process may contact the University Ombudsperson at any time for assistance with any questions associated with the dismissal process.
3. The Department Chair (or designee) may convene an ad hoc special review committee (or charge an existing committee) to advise on any dismissal.
4. The Department Chair (or designee) shall review all documentation and respond in writing to the student within thirty calendar days of receiving the formal dismissal appeal. The Department Chair (or designee) will place, in writing, the final decision to the student, instructor, program director, program/department appeal committee or the reason for any delay in decision. The decision of the Department Chair (or designee) can be appealed to the Dean.
5. Appeals to the Dean must be submitted in writing within ten calendar days of the postmarked response from the Department Chair (or designee). The Dean or his/her designee must respond to the student dismissal appeal within thirty calendar days. The decision of the Dean or his/her designee is the final decision at the College level.
6. If the dismissal appeal is denied at the Dean (or designee) of the College level and the College appeal path is exhausted, if the student wishes to continue with the dismissal appeal process, per the University Academic policy (https://provost.wayne.edu/academic-policy), the student may request a Provost Review within 30 days of this decision. The request should be addressed to Dr. R. Darin Ellis, Associate Provost for Academic Programs. **The request should be submitted via the online form** (https://provost.wayne.edu/academic-policy). For assistance with the appeal process, the student may contact the Ombudsperson (https://wayne.edu/ombuds). The student's dismissal appeal for Provost Review must include a copy of the current course syllabus, the initial student appeal letter including detailed justification for the appeal, the Department Chair's (or designee's) response letter, and the Dean's (or designee's) written response. The decision of the Provost or his/her designee is final. No further appeal is possible..

Suspension

In extenuating circumstances, a suspension may be recommended during the appeal process. Suspension is a temporary removal of a student from participation in educational activities. While suspended, the student is placed on an administrative leave of absence.

Suspension may occur for failure to meet program/department, College or University requirements, because of a serious allegation of unprofessional behavior, or when a student is deemed to be a danger to others or him/herself. A recommendation for suspension can be made in writing to the student by the Assistant Dean for Student Affairs, the Associate Deans for Pharmacy or Health Sciences in consultation with the Dean of Students or the Office of the Provost.

Dismissal Policies Listed by Program/Department

Students should refer to their program or department for the applicable dismissal policy.

College Bachelor's Degree Requirements

Specific requirements for the several bachelor's degrees offered by the College are enumerated in the departmental and program sections of this bulletin. Following are general College and University policies governing baccalaureate programs.

High School Preparation (Recommended)

Students who plan to enter the University as freshmen should have included in their high school programs at least three years of English, one year of algebra, one year of plane geometry, at least one course in a laboratory science, and at least two years of a foreign language. Some programs require additional work in mathematics and science. High school students and their parents are encouraged to attend the Eugene Applebaum College of Pharmacy and Health Sciences Information Meetings (http://www.cphs.wayne.edu/highschool.php) held on the first Tuesday of each month at 6 p.m. at the College.

Residence

The last thirty credits of work applicable to the degree, exclusive of credit by special examination, must be completed in an undergraduate college or school of Wayne State University.

Time Limitations

It is the policy of the College that preprofessional science courses must be completed within six years just prior to admission to a professional program. Exceptions to this policy may be made on a case-by-case basis at the sole discretion of the program faculty. Documentation of competency during post-graduation/pre-admission employment must be provided by the applicant requesting the exception. There is no appeal for this exception request of this policy.

Student Support Services and Organizations

Office of Student Affairs

The Office of Student Affairs (OSA) provides program information, monthly information meetings and advising support to prospective and current students for the degree and certificate programs offered by the College. From this office prospective students can obtain advice about admission requirements and program prerequisites and have their transcripts evaluated for transfer equivalencies. Additionally, information on registration and financial aid; enrollment verification required for financial aid, internship licensing, or other purposes is processed through this office. The Office also audits student records for completion of General Education Requirements and program requirements prior to graduation. The OSA staff participates in the various activities with the main campus, including recruitment fairs, graduation, new student convocations, FestiFall, prospective student open house, and Scholars Day. The OSA staff supports EACPHS student organizations, facilitate Community Apple Days, participate in numerous recruitment activities such as career and educational fairs at local middle schools, high schools, colleges, and universities.

Student Organizations

There are many student organizations within the College that allow a student to be active in professional and extracurricular activities. Please contact individual program offices for more information regarding student organizations.

Applied Health Sciences

The mission of the Department of Applied Health Sciences is to provide students with highly effective and quality educational experiences that address contemporary challenges directly impacting public health, health care, environmental and workplace issues.

- Clinical Laboratory Science (B.S.) (p. 334)
- Forensic Investigation (Post-Bachelor's Certificate) (p. 336)
- Forensic Investigation and Policing Minor (p. 337)
- Laboratory Science Concentration (B.H.S.) (p. 336)
- Mortuary Science (B.S.) (p. 337)

Clinical Laboratory Science

Office: 401 Mortuary Science Building; 313-577-2050
Program Director: Karen K. Apolloni
http://cphs.wayne.edu/cls

The Clinical Laboratory Science programs (Bachelor of Science in Clinical Laboratory Science and Bachelor of Health Science with a concentration in Laboratory Science) encompass health professions dedicated to providing accurate diagnostic information to medical practitioners. The field offers challenging opportunities for people with aptitudes in the basic sciences and interest in a health care career. The programs at Wayne State University provide students with the technical knowledge and specialized skills necessary for entry-level work as laboratory professionals. Graduates of the BS in CLS program are eligible to take a national certification examination, which is required for most hospital-based clinical laboratory science positions. The Bachelor of Health Science with a concentration in Laboratory Science degree is a good choice for students interested in entering a subsequent graduate program.

Both programs have pre-professional and professional curriculum components. The pre-professional component consists of science and non-science prerequisite courses and the general education curriculum. The professional program begins with the junior year and is taught by the faculty of the Department of Applied Health Sciences. Didactic course work continues in the senior year and students in the BS in CLS program also complete a clinical experience in an affiliated clinical laboratory.

- Clinical Laboratory Science (B.S.) (p. 334)
- Laboratory Science Concentration (B.H.S.) (p. 336)

Clinical Laboratory Science (B.S.)

The Bachelor of Science in Clinical Laboratory Science program consists of two years of pre-professional courses and two years of professional courses. The program fulfills the requirements for clinical laboratory science education of the National Accrediting Agency for Clinical Laboratory Sciences. Upon completion of this program, the student receives a Bachelor of Science in Clinical Laboratory Science degree and is eligible to take a national certification examination in Medical Laboratory Science. Granting of the Bachelor of Science in Clinical Laboratory Science degree IS NOT contingent up the student's passing any type of external certification or licensure examination.

This program is accredited by:

National Accrediting Agency for Clinical Laboratory Sciences (NAACLS)

5600 N. River Road, Suite 720, Rosemont, IL 60018

Phone: 773-714-8880 Fax: 773-714-8886 Email: info@naacls.org
www.naacls.org

The work of the clinical laboratory scientist involves performing a vast array of laboratory tests to provide accurate diagnostic information to the physician and the health care team. The clinical laboratory scientist operates sophisticated laboratory instrumentation, evaluates and utilizes the best possible testing methods, and effectively teaches and supervises students and laboratory personnel. While the majority of clinical laboratory scientists work in hospitals or other clinical laboratories, graduates are also prepared for positions in federal, state and local public health departments, in industrial or research laboratories and in clinical laboratory science education.

The Clinical Laboratory Science program utilizes the facilities of the Eugene Applebaum College of Pharmacy and Health Sciences, the faculty of the Department of Applied Health Sciences, and the laboratories and pathology departments of clinical affiliates. This program includes clinical experiential coursework for all students who meet or exceed grade requirements.

Pre-professional Program

The first two years (pre-professional program) are taken in the College of Liberal Arts and Sciences, the admission requirements of which are satisfied by general admission (http://bulletins.wayne.edu/undergraduate/general-information/admission) to the University. Students should consult with an Academic Services Officer in the Office of Student Affairs at the Eugene Applebaum College of Pharmacy and Health Sciences regarding course selection. Students are urged to seek additional career advisement from the Clinical Laboratory Science program faculty early in the pre-professional program.

Recommended High School Preparation: Students interested in a career in clinical laboratory science should take as many of the following courses as possible: biology, chemistry, mathematics, computer science, keyboarding, speech, and composition.

Professional Program

Admission

Admission to the professional program requires completion of the pre-professional course requirements and satisfaction of specific admission requirements listed below. The application deadline for matriculation into the professional program is April 1 of each year for the subsequent Fall semester.

Since applicants who are admitted will eventually be working as members of a health care team, the admissions committee evaluates candidates based on their personal qualities as well as their academic achievement. Therefore, throughout the interview and the completion of other application requirements, criteria such as an applicant's maturity, motivation, knowledge of the profession, interpersonal skills, personal integrity, and empathy for others are evaluated.

Admission Requirements: The student wishing to apply to the professional program must meet the following admission requirements:

1. Cumulative grade point averages by the end of the second semester of the year preceding admission to the professional program of
   a. overall grade point average of 2.7 or above in pre-professional courses
   b. grade point average of 2.7 or above in all science and mathematics prerequisite courses
   c. no grade lower than 'C' in any pre-requisite course.
2. No more than two repeats or withdrawals (marks of 'W' or 'WF') in science courses preferred. (If all courses are withdrawn in a single semester, it counts as one 'W.')
3. Completion of all pre-professional courses (or their equivalents) by the end of the Spring/Summer semester prior to beginning the professional program.
4. Completion of the professional program application form and associated requirements and submission of official transcripts to:

   Eugene Applebaum College of Pharmacy and Health Sciences
   Office of Student Affairs
   259 Mack Avenue, Suite 1600
   Detroit, MI 48201

APPLICATION DEADLINE: The deadline for applications is April 1. Prospective students are urged to submit applications as early as possible. Specific directions for submitting application materials are indicated on the website.

APPLICATION REVIEW: All applications will be reviewed for completeness. The Admissions Committee will interview qualified applicants with completed applications submitted by the deadline date. A number of criteria will be evaluated, including academic achievement and personal qualities. Upon completion of all admission interviews, applicants will be notified of the final admission decision. This typically occurs in June of each year.

All requests for additional information should be addressed to the Department of Applied Health Sciences, Clinical Laboratory Science Program, Eugene Applebaum College of Pharmacy and Health Sciences.

Preprofessional Curriculum

Preprofessional science courses must be completed within the six years just prior to admission to a professional program. Exceptions to this policy may be made on a case-by-case basis at the discretion of the program faculty. Documentation of competency must be provided by the applicant requesting the exception.

These courses are taken under direction of the College of Liberal Arts and Sciences.

Code	Title	Credits
Pre-professional Courses		
BIO 1510	Basic Life Mechanisms	4
BIO 2200	Introductory Microbiology	5
BIO 2870	Anatomy and Physiology	5
CHM 1220	General Chemistry I	4
CHM 1230	General Chemistry I Laboratory	1
CHM 1240	Organic Chemistry I	4
CHM 1250	Organic Chemistry I Laboratory	1
CHM 2220	Organic Chemistry II (recommended)	3
or CHM 2280	General Chemistry II: Analytical Chemistry	
CHM 2230	Organic Chemistry II Laboratory	1-2
or CHM 2290	General Chemistry II: Analytical Chemistry Laboratory	
CLS 2080	Clinical Laboratory Science Seminar	1
or CLS 2990	Pre-professional Directed Study	
CLS 3330	Medical Terminology	1
COM 1010	Oral Communication: Basic Speech	3
ENG 1020	Introductory College Writing	3
ENG 3010	Intermediate Writing (or any Intermediate Composition (IC) course)	3
MAT 1800	Elementary Functions	4
STA 1020	Elementary Statistics	3
University General Education Requirements:		
Cultural Inquiry (CI)		3
Social Inquiry (SI)		3
Diversity, Equity and Inclusion (DEI)		3
Global Learning Inquiry (GL)		3
Civic Literacy (CIV)		3
Wayne Experience (WE)		1
Total Credits		62-63

Candidates for the Bachelor of Science in Clinical Laboratory Science degree must complete 120-134 credits in course work, including sufficient credits to fulfill the University General Education Requirements (p. 34) not satisfied by either required courses or the student's choice of electives in the pre-professional program. The distribution of the total credits for the degree will be between the pre-professional program and the following professional program.

CLS Professional Curriculum

Science courses in this program are taken under the direction of the faculty of Clinical Laboratory Science in cooperation with the faculty of the Department of Fundamental and Applied Sciences and the staff of affiliated clinical institutions.

Third and Fourth Years

Code	Title	Credits
CLS 3020	Hematology Lecture and Laboratory	4
CLS 3040	Immunohematology Lecture and Laboratory	4
CLS 3080	Instrumentation Lecture and Laboratory	4
CLS 3090	Introduction to Professional Practice	1
CLS 3100	Basic Techniques: Microscopy	3
CLS 3280	Clinical Chemistry Lecture and Laboratory	4
CLS 4040	Laboratory Operations	3
CLS 4210	Hemostasis Lecture and Laboratory	2

CLS 4230	Hematology II	3
CLS 4990	Professional Directed Study (if needed)	1
CLS 5070	Clinical Pathology Correlation	2
CLS 5500	Immunology and Serology	3
CLS 5510	Diagnostic Microbiology I	4
CLS 5520	Diagnostic Microbiology II	4
CLS 5530	Clinical Laboratory Science Simulation Laboratory	3
CLS 5020	Pathophysiology for the Clinical Laboratory	3
Total Credits		48

Clinical Experience

(Second Semester/Senior Year):

Code	Title	Credits
CLS 4000	Clinical Hematology	5
CLS 4010	Clinical Chemistry	3
CLS 4020	Clinical Blood Bank	2
CLS 4030	Clinical Microbiology	5
CLS 4050	Clinical Immunology	1
Total Credits		16

Courses are completed at a clinical laboratory affiliated with the Eugene Applebaum College of Pharmacy and Health Sciences.

Laboratory Science Concentration (B.H.S.)

The Bachelor of Health Science with a concentration in Laboratory Science is an excellent degree for students who wish to specialize in laboratory studies or advanced medical training outside of the typical hospital or clinical laboratory setting. This program is designed to provide students with necessary coursework to either continue with CLS studies after graduation or to apply to graduate programs in a health care field of their choice. The clinical experience is not included in this degree.

Students applying for admission to this program must apply through the Clinical Laboratory Science admission procedure. See the Bachelor of Science in Clinical Laboratory Science program page for details.

Pre-professional Curriculum

Preprofessional science courses must be completed within the six years just prior to admission to a professional program. Exceptions to this policy may be made on a case-by-case basis at the discretion of the program faculty. Documentation of competency must be provided by the applicant requesting the exception.

These courses are taken under direction of the College of Liberal Arts and Sciences.

Pre-professional curriculum requirements for the Bachelor of Health Science with a concentration in Laboratory Science are identical to those for the Bachelor of Science in Clinical Laboratory Science. Please see the Bachelor of Science in Clinical Laboratory Science requirements page for details.

The BHS with a concentration in Laboratory Science degree requires a total of 120 credits.

Professional Curriculum

Required Courses

Code	Title	Credits
CLS 3020	Hematology Lecture and Laboratory	4
CLS 3080	Instrumentation Lecture and Laboratory	4
CLS 3100	Basic Techniques: Microscopy	3
CLS 3280	Clinical Chemistry Lecture and Laboratory	4
CLS 4210	Hemostasis Lecture and Laboratory	2
CLS 4230	Hematology II	3
CLS 5500	Immunology and Serology	3
CLS 5510	Diagnostic Microbiology I	4
CLS 5520	Diagnostic Microbiology II	4
Total Credits		31

Approved Electives

Sufficient electives may be taken to complete the minimum of 120 credits needed for graduation. Electives must be approved by the CLS Program Director and may include (list is not all-inclusive):

Code	Title	Credits
CLS 3040	Immunohematology Lecture and Laboratory	4
CLS 3090	Introduction to Professional Practice	1
CLS 4040	Laboratory Operations	3
CLS 4990	Professional Directed Study	1-8
CLS 5020	Pathophysiology for the Clinical Laboratory	3
Genetics		
Advanced Physiology		
Nutrition		
Cell Biology		
General Physics		
Advanced Psychology		
Ethics:		
PHI 1110	Ethical Issues in Health Care	
or PHI 2320	Introduction to Ethics	
CLS 5530	Clinical Laboratory Science Simulation Laboratory	3

Forensic Investigation (Post-Bachelor's Certificate)

The Certificate Program in Forensic Investigation is designed for students who have earned a four-year bachelor's degree in another discipline from an accredited college or university who wish to acquire competence in the area of forensic investigation. This program is not designed to train forensic investigators; rather, its aim is to educate personnel whose professional scope and practice interfaces with the criminal justice system. This program can assist students as a foundation in their pursuit of advanced degrees in forensic specialties including physical / forensic anthropology and forensic psychology among others. The Program is offered by the Department in cooperation with the Department of Criminal Justice (W.S.U.), the Department of Biomedical Engineering (W.S.U.), the offices of the Wayne County Medical Examiner, the Oakland County Medical Examiner, and the Bureau of Alcohol, Tobacco and Firearms (ATF), among others.

Admission Requirements

The program is open to graduates of four-year baccalaureate programs in any accredited college or university who have a grade point average of 2.50 or better. Students whose degree is from Wayne State should

apply directly to the program through the Office of Student Affairs (http://www.cphs.wayne.edu/program/forensic-post-apply.php), 259 Mack Avenue, Suite 1600, Detroit MI 48201; those from other institutions must submit the University application for undergraduate admission (p. 22). All application materials must be received by June 1 for fall admission only. Student informational interviews are conducted by members of the admissions committee prior to placement in the fall semester. All students admitted to the post-bachelor certificate program are expected to complete a Plan of Work during their first semester in the program. For information and application forms, contact the:

Department of Applied Health Sciences
Forensic Investigation Program
5439 Woodward Ave.
Detroit MI 48202
313-577-2050; Fax: 313-577-4456
http://www.mortsci.wayne.edu/forensics.php

The candidate for the post-baccalaureate Certificate in Forensic Investigation must complete the following program with a grade point average of 2.50 or above and completed all coursework at Wayne State University with a minimum of a C. Total credits for completion is a minimum of twenty-four credits.

Code	Title	Credits
Required Courses		
ANT 5180	Forensic Anthropology	3-4
or CRJ 4220	Criminalistics	
MS 4010	Forensic Laboratory Standards	3
MS 4011	Interview and Interrogation Techniques	3
MS 4200	Introduction to Forensic Anatomic Pathology	3
MS 5010	Forensic Analysis	2
MS 5011	Forensic Investigation of Firearms, Ballistics, and Explosives	4
Electives		
Select a minimum of six semester credits from the following:		6
Internship		
MS 4600	Clinical Forensic Pathology	
Expert Witness		
MS 5550	Special Topics in Mortuary Science	
Independent Study'		
MS 5990	Directed Study	
Loss, Grief and Stress		
MS 5550	Special Topics in Mortuary Science	
Advanced Case Studies in Forensics		
MS 5550	Special Topics in Mortuary Science	
Total Credits		24-25

Forensic Investigation and Policing Minor

The Forensic Investigation and Policing minor is 23- 24 credits of coursework, of which a maximum of 6 credits can be transferred from other institutions for the CRJ courses only.

Code	Title	Credits
CRJ 1010	Introduction to Criminal Justice	3
CRJ 3200	Police and Society	4
CRJ 3260	Investigation	3
CRJ 4220	Criminalistics	4
MS 4011	Interview and Interrogation Techniques	3
MS 5011	Forensic Investigation of Firearms, Ballistics, and Explosives	4
Students must choose at least one of the following courses: *		2-3
MS 4010	Forensic Laboratory Standards	
MS 5010	Forensic Analysis	
Total Credits		23-24

* MS 4010 and MS 5010 do not need to be taken in sequence; therefore, students can choose to take either one of these courses.

Mortuary Science (B.S.)

Mark T. Evely, Program Director
313-577-1202; evely@wayne.edu

The Mortuary Science degree Program at Wayne State University is accredited by:

The American Board of Funeral Service Education (ABFSE)
992 Mantua Pike, Suite 108
Woodbury Heights, NJ 08097
(816) 233-3747
www.abfse.org (http://www.abfse.org)

National Board Examination pass rates, graduation rates, and employment rates for this and other ABFSE-accredited programs are available at www.abfse.org (http://www.abfse.org). To request a printed copy of this program's rates, go to Room 114 of the Mortuary Science Building, 5439 Woodward Ave., Detroit, MI 48202 or by e-mail at fundappsciences@wayne.edu or telephone 313-577-2050.

Wayne State University is accredited by the Higher Learning Commission and complies with its provisions on ethical and responsible conduct as defined in Higher Learning Commission Assumed Practices, Number CRRT.B.10.020.

Program Learning Outcomes

1. Explain the importance of funeral service professionals in developing relationships with the families and communities they serve.
2. Identify standards of ethical conduct in funeral service practice.
3. Interpret how federal, state, and local laws apply to funeral service in order to ensure compliance.
4. Apply principles of public health and safety in the handling and preparation of human remains.
5. Demonstrate technical skills in embalming and restorative art that are necessary for the preparation and handling of human remains.
6. Demonstrate skills required for conducting arrangement conferences, visitations, services, and ceremonies.
7. Describe the requirements and procedures for burial, cremation, and other accepted forms of final disposition of human remains.
8. Describe methods to address the grief-related needs of the bereaved.
9. Explain management skills associated with operating a funeral establishment.
10. Demonstrate verbal and written communication skills and research skills needed for funeral service practice.

Traditional and Online Courses

Students may complete the program in a traditional, online or hybrid format. Please see the Handbook for Online Students (http://cphs.wayne.edu/mortuary-science/images/mort_sci_online_student_handbook.pdf) for additional requirements.

Academic Advising and Transcript Evaluations

Academic advising, transcript evaluations, and questions regarding transfer credits are available through email to cphsinfo@wayne.edu or by calling 313-577-1716.

Grading Policy

Minimum Grade

Students in the Mortuary Science Program are required to maintain a program curriculum minimum GPA of 2.50 for continued enrollment and satisfactory completion. Your GPA will be calculated at the end of each semester to determine whether continued enrollment is possible. Each class must be passed with a grade of "C" or better. A grade of less than "C" will require that the course be retaken. Courses in the Professional Program may only be retaken once.

Grade of 'F'

A grade of 'F' indicates that required class was failed. No credit will be given for the course. Receiving a grade of F will result in dismissal from the program.

Mark of 'I'

A mark of 'I' indicates that course requirements were not completed or submitted as required. The mark is given at the discretion of the instructor. The student is required to meet with the instructor and submit a written Plan of Work confirming the agreement regarding the method, manner and timing of completing the requirements. Failure to complete requirements by the established deadline will result in the 'I' mark being converted to an 'F'.

The following scale will be used in course grading:

93 - 100% A
90 - 92% A-
87 - 89% B+
83 - 86% B
80 - 82% B-
77 - 79% C+
73 - 76% C
70 - 72% C-
67 - 69% D+
63 - 66% D
60 - 62% D-
below 60% F

Grades may be viewed in Academica (http://academica.aws.wayne.edu). Grades are usually posted within 24 hours of an instructor submitting them. You will receive an e-mail informing you when grades are posted.

Time Limitations

While students are strongly encouraged to enroll full-time for three consecutive semesters, part-time enrollment will be limited to six consecutive semesters and is permitted only at the discretion of the Mortuary Science Program Admission Committee. Students must complete the Program within two years of initial admission.

Degree Requirements

The candidate for the Bachelor of Science in Mortuary Science must satisfactorily complete:

1. Sixty-four credits of Program-Specific Prerequisites and General Education requirements listed below;
2. Fifty-six credits in the Mortuary Science professional program curriculum;
3. Take both the Arts and Sciences parts of the National Board Examination within thirty days of completion of coursework.

All prerequisite, general education, and professional courses must be passed with a grade of C or higher. The overall GPA for the professional courses must be 2.5 or higher.

Pre-professional Program

There are two components of coursework that must be completed prior to beginning the Mortuary Science program: (1) program specific prerequisites[1]; and (2) University General Education requirements (p. 34). The professional curriculum in Mortuary Science consists of fifty-six credits, so an applicant must earn sixty-four credits, including the program prerequisites and general education requirements before entering the program. If the General Education and program prerequisites do not add up to sixty-four credits, elective courses must be taken to complete the sixty-four total credits needed prior to entering the program. This sixty-four plus fifty-six formula equals the 120 total credits required for the Bachelor of Science degree. The courses below are listed by their title and course number at Wayne State University. For comparable courses at other colleges, students should consult the Office of Transfer Credit (http://transfercredit.wayne.edu).

Specific mortuary science professional curriculum prerequisites must be completed with a grade of 'C' or better.

Program-Specific Prerequisites

Code	Title	Credits
BIO 1510	Basic Life Mechanisms	4
BIO 2870	Anatomy and Physiology	5
CLS 3330	Medical Terminology	1
CHM 1000	Chemistry and Your World	4
COM 1010	Oral Communication: Basic Speech	3
PH 2100	Introduction to Public Health	3
COM 2200	Interpersonal Communication	3
MGT 2530	Management of Organizational Behavior [2]	3
ENG 1020	Introductory College Writing	3
ENG 3010	Intermediate Writing	3
PSY 1010	Introductory Psychology	4
PHI 1050	Critical Thinking	3
SOC 1010	Understanding Human Society	3

University General Education Requirements

General Education courses are required for every graduate of Wayne State University. Applicants may satisfy the general education requirements in one of the following ways:

1. earning a bachelor's degree from a regionally accredited institution,
2. earning an Associate of Arts (AA), Associate of Liberal Arts (ALA), Associate of Science (AS) or Associate of Baccalaureate Studies (ABS) degree from a Michigan community college,
3. obtaining a Michigan Transfer Agreement (MTA) stamp
4. obtaining a MACRAO stamp, or
5. completing courses in satisfaction of the University General Education requirements.

[1] The previous Mortuary Science prerequisite plan will be accepted until Fall 2020.

[2] An introductory Business course is also acceptable

Professional Program

Admission Requirements

1. Minimum of 2.50 GPA
2. All pre-professional coursework must be completed with a grade of "C" or better.
3. All science and math coursework must be completed within six years of the time of application to the professional program.
4. Test of English as a Foreign Language (TOEFL)-required only if English is not your first language
5. Minimum of 64 credits, including all program specific pre-requisites and University General Education requirements.
6. Pre-professional coursework taken at an accredited college or university is acceptable
7. Completion of all pre-professional courses by the end of the spring/summer semester before admission to the program (unless an exception is granted by the program)
8. All applicants must attend one monthly Information Meeting at the Eugene Applebaum College of Pharmacy and Health Sciences.

How to Apply

Students must submit the Mortuary Science Program Application (http://www.cphs.wayne.edu/mortuary-science/apply.php). The application deadline is May 15th of the year an applicant wants to enter the program.

Health and Immunization Record

All applicants, including transfer students from Colleges within Wayne State University, are required to submit to the Mortuary Science Program the results of a TB test administered within six months preceding their entrance into the program and a copy of their immunization history. Immunization against Hepatitis B Virus (HBV) is strongly advised; enrollees declining immunization are required to do so in writing.

Professional Curriculum

All professional courses must be completed with a grade of "C" or better. The National Board Examination (NBE) is a degree requirement and must be taken within thirty (30) days of completing MS 5996. All professional courses must be completed within two years of initial admission to the Program.

Fall Semester		Credits
MS 3100	Thanatochemistry	2
MS 3500	Embalming I	2
MS 3600	Restorative Art I	3
MS 3800	Funeral Directing	3
MS 3830	Psychology of Death and Dying	3
MS 3970	Practicum I	3
MS 4050	Anatomy for Mortuary Science	2
	Credits	18
Winter Semester		
MS 3300	Religions, Values, and Death	2
MS 3400	Funeral Service Law and Ethics I	3
MS 3510	Embalming II	2
MS 3610	Restorative Art II	2
MS 3810	Funeral Service Marketing and Merchandising	3
MS 3980	Practicum II	3
MS 4250	Pathology and Microbiology for Mortuary Science	3
MS 5350	Funeral Service Communicat	1
	Credits	19
Spring/Summer Semester		
MS 3410	Funeral Service Law and Ethics II	3
MS 3620	Preparation for Disposition	2
MS 3760	Funeral Service History and Trends	2
MS 3840	Psychosocial Aspects of Grief	3
MS 4000	Practicum III	3
MS 4450	Funeral Service Management and Accounting	3
MS 5996	Professional Review	3
	Credits	19
	Total Credits	56

Licensure in Michigan

To become eligible for a mortuary science license in the State of Michigan, the following requirements must be met:

1. Complete at least three years of prescribed undergraduate coursework, including an accredited Mortuary Science Program;
2. Pass national and state examinations;
3. Fulfill the requirements for resident training

Further information regarding licensure may be found on the LARA website (http://www.michigan.gov/lara/0,4601,7-154-61343_35414_60647_79102---,00.html).

HEALTH CARE SCIENCES

The Department of Health Care Sciences consists of six programs that share a common theme of excellence in the education and training of those involved in patient care. The department is housed in the Eugene Applebaum College of Pharmacy and Health Sciences (EACPHS) building which is near main, large health care institutions and close to the Wayne State University Medical School. Many of the department's faculty, who are involved in health care related research, offer students opportunities to assist in research. This has enabled greater appreciation for health care management and clinical decision-making.

- Occupational Therapy Concentration (B.H.S.) (p. 340)
- Physical Therapy Concentration (B.H.S.) (p. 341)
- Radiation Therapy Technology (B.S.) (p. 342)
- Radiologic Techology (B.S.) (p. 345)

Occupational Therapy Concentration (B.H.S.)

Office: Room 2226 APHS: 313-577-5884
Program Director: Doreen Head
Admissions Coordinator: Regina Parnell
Fieldwork Education Level I and II: Kim Banfill
Department Secretary III: Ashley Willis-Bradley
Administrative Assistant III: Dawn Waltz
http://cphs.wayne.edu/ot/

Occupational therapy helps people enhance wellness at any stage of life and supports their ability to perform in activities important to them. A patient learns how to prevent, overcome, or manage, physical and/or psychological impairments and to maintain health with the assistance of a qualified therapist. Occupational therapists show patients how to live life at optimal potential by using exercise, activity, and daily tasks. The vision of the Occupational Therapy program encompasses education, research, and service excellence in the promotion of occupations of meaning within a multicultural urban community.

Occupational Therapy

The program offers coursework leading to the Bachelor of Health Science degree with a concentration in occupational therapy. This degree is awarded upon completion of approximately 71-73 pre-professional semester credits and 56 professional program credits, and it is a prerequisite for entry into the graduate component of the professional program, the Master of Occupational Therapy. The Eugene Applebaum College of Pharmacy and Health Sciences must formally accept students before admission to the professional courses. Students who successfully complete the B.H.S. occupational therapy concentration and meet the requirements for admission to the Graduate School at Wayne State University, are eligible to continue into the graduate component of the program. Students who already hold an undergraduate degree are eligible to receive a second bachelor's degree.

The professional program is designed primarily for full-time enrollment; although part-time enrollment may be considered and must be approved by the program director on a case-by-case basis.

Accreditation

Wayne State University offers courses of study which are accredited by the Accreditation Council for Occupational Therapy Education (ACOTE (http://www.acoteonline.org)), located at 4720 Montgomery Lane, Suite 200 Bethesda, MD 20814-3449; 301-652-2682, and the accrediting body of the American Occupational Therapy Association (AOTA (http://www.aota.org)), which prepare the student to take the national certification examination through the National Board for Certification in Occupational Therapy, Inc. (NBCOT (http://www.nbcot.org)) 301-990-7979. (The Bachelor of Health Science degree does not qualify the holder for certification.)

Pre-professional Program

Applicants must complete two years of pre-professional study including the General Education Requirements (p. 34) of the university, and prerequisite courses for the occupational therapy professional program. Decisions regarding the fulfillment of program prerequisites are made by the Department of Occupational Therapy.

The following curriculum is required of all degree candidates for subsequent admission to professional study in the Department of Occupational Therapy. Core courses must be completed by the end of the fall semester prior to application for admission to the professional program.

Code	Title	Credits
Core Courses		
BIO 1510	Basic Life Mechanisms	4
BIO 2870	Anatomy and Physiology	5
COM 1010	Oral Communication: Basic Speech	3
ENG 1020	Introductory College Writing	3
ENG 3010	Intermediate Writing	3
KIN 3580	Biomechanics	3
PS 1010	American Government	4
PSY 1010	Introductory Psychology	3-4
or PSY 1020	Elements of Psychology	
PSY 2400	Developmental Psychology	4
Select one of the following Statistics courses:		3
STA 1020	Elementary Statistics	
Other statistics course		
PSY 2030	Statistical Methods in Psychology	
Additional General Education Requirements		
Social Inquiry (SI)		3
Cultural Inquiry (CI)		3
Global Learning Inquiry (GL)		3
Diversity, Equity & Inclusion Inquiry (DEI)		3
Civic Literacy Inquiry (CIV)		3

Professional Program

Admission Requirements

The professional program in occupational therapy is eight semesters in length and consists of an undergraduate component and a graduate component. Progression to the graduate component is achieved only through successful completion of the undergraduate component. Applications to the professional program (http://cphs.wayne.edu/occupational-therapy/admissions.php) are submitted through the Occupational Therapist Centralized Application Service (OTCAS) and may be obtained each November through February online from the College of Pharmacy and Health Sciences Office of Student Affairs. Applicants should also be familiar with general University (p. 22) and College (http://www.cphs.wayne.edu) admission requirements. Students are admitted once per year during the spring/summer semester prior to Fall enrollment. In addition to the application, the student must:

1. Hold a minimum cumulative grade point average of 3.0 (on a 4.00 scale) for the pre-professional courses listed above. All prerequisite

courses must be completed with a 'C' or better. A maximum of two core prerequisite courses may be repeated to improve grades.

2. Complete a minimum of twenty hours contact with a registered occupational therapist. These contact hours may be in one facility with one therapist, or within a variety of facilities and with more than one therapist. The therapist(s) with whom the student had the contact experience(s) must complete documentation, which is provided in the application.
3. 3. Complete a Personal/Professional Statement through OTCAS.
4. 4. Submit a letter of recommendation from a current or former supervisor through OTCAS.

Students transferring from another institution should contact a representative at the Office of Student Affairs to ensure their credits are equivalent to Wayne State University courses. Equivalency guides are available from the University's Office of Transfer Credit (http://transfercredit.wayne.edu) or by contacting the College's Office of Student Affairs (http://cphs.wayne.edu/students/ofa.php).

Undergraduate Level Courses

Code	Title	Credits
OT 3000	Introduction to Occupation, Health, and Wellness	4
OT 3070	Occupational Therapy Research I	3
OT 3200	Therapeutic Media	3
OT 3400	Health Conditions I: Physical Disabilities	4
OT 4050	Life Occupations I	3
OT 4280	Occupational Therapy Assessments	5
OT 4400	Health Conditions II: Mental Health	4
OT 4600	Group Dynamics (Fieldwork I Mental Health)	5
OT 5000	Interventions and Outcomes I (Fieldwork I Physical Disabilities)	5
OT 5050	Life Occupations II	3
OT 5300	Surface Anatomy for Occupational Therapy	1
OT 5400	Neurosciences for Health Care Professionals	3
OT 5505	Clinical Applications of Human Anatomy	3
OT 5510	Clinical Applications of Human Anatomy: Laboratory	1
OT 5650	Pathophysiology for Health Sciences	3
OT 5993	Writing Intensive Seminar in Occupational Therapy	0
OT 6070	Occupational Therapy Research II (project required)	3
Total Credits		53

Upon completion of this part of the program students may apply for the Bachelor of Health Science degree. For Master of Occupational Therapy program requirements, students should consult the Graduate Bulletin (http://bulletins.wayne.edu/graduate/college-pharmacy-health-sciences/health-care-sciences/occupational-therapy-mot).

Academic Regulations

Once a student is enrolled in the professional program, a minimum cumulative grade point average (g.p.a.) of 3.0 or above must be maintained. A student must achieve an undergraduate g.p.a. of 3.00 to be eligible for regular graduate admission to the graduate component of the degree. Students apply for graduation and Graduate status during the fourth semester of the undergraduate component of the curriculum. Once admitted to Graduate School, students must maintain a g.p.a. of 3.0 in all graduate level courses.The student will apply for graduation and Graduate status during semester four.The student must maintain a g.p.a. of 3.0 in all graduate level courses.

Undergraduate Probation: A student whose g.p.a. falls below 3.0 in an academic semester is placed on curriculum probation for the following semester. The student must raise his/her g.p.a. in that semester, and must reach at least a 3.0 cumulative average at the end of the following semester; failure to accomplish this will result in dismissal from the program. A student is allowed a maximum of two semesters of probation during his/her entire enrollment in the occupational therapy program.

Repeating Courses: A grade of 'C-minus' or below in a prerequisite to a professional course, or in a professional course, indicates unsatisfactory performance, and the course must be repeated. No more than two professional courses may be repeated.

A course from which a student withdraws prior to the end of the semester, and in which he/she has maintained a 'C-minus' average, is counted as one of the two courses which the student is allowed to repeat. A failing grade ('F') in a professional course is unacceptable, and the student is automatically dismissed from the occupational therapy program. Failure in a Level I or Level II field experience will also result in dismissal from the program. If a student fails, he/she may, with the help of an occupational therapy faculty advisor, petition for readmission to the program.

Physical Therapy Concentration (B.H.S.)

Office: 2248 EACPHS; 313-577-1432
Chairperson: Sara F. Maher
Director: Kristina Reid, Physical Therapy Program
http://www.pt.cphs.wayne.edu/

Physical Therapists provide services to patients/clients who have impairments of body function and structure, activity limitations, and participation restrictions or changes in physical function and health status resulting from injury, disease, or other causes. Physical therapists collaborate with a variety of professionals, address risk factors to health, are leaders and providers in the areas of prevention and promoting health, wellness and fitness, serve as educators, consultants, administrators, and advocates, utilize critical inquiry skills and direct and supervise the provision of physical therapy services. Physical Therapy services include examination, evaluation, diagnosis, prognosis, and intervention primarily for individuals with musculoskeletal, neuromuscular, cardiopulmonary, and/or integumentary conditions. Physical therapists practice in a wide variety of settings including hospitals, outpatient clinics, private practice, schools, academia, home care, industrial clinics, sports clinics, rehabilitation centers, and health and wellness programs. Students interested in the physical therapy profession should also visit the American Physical Therapy Association (http://www.apta.org) website.

The physical therapy curriculum at Wayne State University is a professional degree program leading to the Doctor of Physical Therapy (http://bulletins.wayne.edu/graduate/college-pharmacy-health-sciences/health-care-sciences/physical-therapy-dpt) degree. The entire program involves a pre-professional component: ninety credits of undergraduate course work; a first year of physical therapy courses taken under qualified graduate status; and the final two and one half years of Physical Therapy courses taken under regular graduate status. Only those portions of the program that may be completed during the first four years of what is usually construed as an undergraduate matriculation are presented in this Bulletin. The balance of the program is presented in the Graduate Bulletin.

The program of study in physical therapy is accredited by the:

Commission on Accreditation in Physical Therapy Education for the Doctor of Physical Therapy program
Attn: Accreditation Dept.
1111 N. Fairfax St.
Alexandria VA 22314-1488
(http://www.apta.org)

Graduates who receive a Doctor of Physical Therapy degree are eligible to take the national physical therapy licensure examination and the Canadian licensure examination and for active membership in the American Physical Therapy Association.

Admission Requirements

Admission to the Doctor of Physical Therapy (D.P.T.) (http://bulletins.wayne.edu/graduate/college-pharmacy-health-sciences/health-care-sciences/physical-therapy-dpt) degree program prior to the beginning of the senior year is required to complete the B.H.S. physical therapy concentration requirements. Admission to the D.P.T. program is highly competitive and requires completion of the pre-professional program. Students should refer to the Graduate Bulletin for admission and course requirements for the D.P.T. degree.

Program Requirements

PLEASE NOTE: Student may NOT apply to or earn the Bachelor of Health Science with a concentration in physical therapy degree retroactively or after a subsequent higher level degree has been conferred.

The Eugene Applebaum College of Pharmacy and Health Sciences has established a combined undergraduate and graduate program in Physical Therapy. Qualified senior students may enroll simultaneously in the undergraduate Bachelor of Health Science with concentration in physical therapy degree program and the graduate Doctor of Physical Therapy (D.P.T.) degree program and apply a maximum of thirty credits toward both the undergraduate and graduate degree. Those who elect the combined program may expect to complete the B.H.S. physical therapy concentration and the D.P.T. degrees in 6.5 years of full-time study.

Degree Requirements

All course work for the B.H.S. physical therapy concentration must be completed in accordance with the academic procedures of the University (p. 11) and the College (p. 329) governing undergraduate scholarship and degrees. Students will need to complete one hundred and twenty credits with a g.p.a. of 2.0 or better, including courses taken that apply to the concentration. Students who have successfully completed at least 30 credits at Wayne State University are eligible.

Course Requirements

Code	Title	Credits
Science Prerequisite Courses		
BIO 1510	Basic Life Mechanisms	4
BIO 2870	Anatomy and Physiology	5
Biology class at the upper level (3 credits at the 3000 level or higher)		3
PHY 2130	Physics for the Life Sciences I	4
PHY 2131	Physics for the Life Sciences Laboratory	1
PHY 2140	Physics for the Life Sciences II	4
PHY 2141	Physics for the Life Sciences Laboratory	1
Two chemistry courses with at least one lab, as long as topics do not overlap (options for chemistry courses listed below)		8-10
CHM 1020	Survey of General Chemistry	
CHM 1030	Survey of Organic/Biochemistry	
CHM 1220 & CHM 1230	General Chemistry I and General Chemistry I Laboratory	
CHM 1240 & CHM 1250	Organic Chemistry I and Organic Chemistry I Laboratory	
Non-Science Prerequisite Courses		
ENG 1020	Introductory College Writing	3
LFA 2330	First Aid and CPR (or equiv.)	3
PSY 1010 or PSY 1020	Introductory Psychology or Elements of Psychology	4
STA 1020	Elementary Statistics	3
Civic Literacy (CIV)		
Cultural Inquiry (CI)		
Diversity, Equity and Inclusion (DEI)		
Global Learning (GL)		
Intermediate Composition (IC)		
Oral Communication (OC)		
Social Inquiry (SI)		
Electives		
To reach 90 credits		0-12
B.H.S. Physical Therapy Concentration Courses		
Select up to 30 credits of the following:		30
PT 5010	Clinical Applications I	
PT 5020	Foundations of Physical Therapy	
PT 5030	Basic Patient Care in Physical Therapy	
PT 5120	Human Growth and Development	
PT 5300	Surface Anatomy	
PT 5320	Basic Examination and Evaluation Procedures	
PT 5400	Neurosciences for Health Care Professionals	
PT 5410	Clinical Medicine I	
PT 5430	Clinical Medicine II	
PT 5500	Kinesiology and Biomechanics	
PT 5505	Clinical Applications of Human Anatomy	
PT 5510	Clinical Applications of Human Anatomy: Laboratory	
PT 5650	Pathophysiology for Health Sciences	
PT 5660	Pathokinesiology	
PT 6300	Research I: Critical Thinking	
PT 6310	Advanced Exercise Physiology	
PT 6400	Teaching and Learning in Health Care	
PT 6700	Motor Learning and Motor Control	

[1] Can be completed by passing proficiency examination.

[2] ECO 1000 or ECO 2010 recommended

Honors Designation

Students enrolled in the Irvin D. Reid Honors College while completing the pre-concentration requirements will be eligible for the Honors distinction with the B.H.S. degree if all requirements set forth by the Honors College have been met.

Radiation Therapy Technology (B.S.)

Office: 5134 EACPHS: 313-577-1137
Program Director: Jeannetta Greer
Chairperson: Sara Maher
http://cphs.wayne.edu/rtt

Radiation therapy technology is a health care discipline which utilizes ionizing radiation for the treatment of malignant diseases. This field requires a basic understanding of and interest in science, especially mathematics and physics, as well as emotional maturity and a desire

to assist in the management of patient care. A radiation therapist has the unique opportunity to blend knowledge and skills of mathematics, medical science, and psychology in his or her everyday work. The therapist comes to know patients over a period of several months and becomes an important presence in their health care, a continued contact that is the source of much satisfaction and professional pride. The Bachelor of Science Degree program in Radiation Therapy Technology at Wayne State University is designed to prepare students for the technical, theoretical and psychological aspects of this career.

Radiation therapists are typically employed in hospitals, clinics, educational institutions, and commercial equipment corporations as staff therapists, clinical supervisors, administrators, educators, and technical marketing personnel. A radiation therapist is able to:

- operate sophisticated radiation equipment to deliver a planned course of radiation therapy;
- assist the physicist in quality assurance and in treatment planning procedures, and in the calibration of equipment;
- observe the clinical progress of the patient undergoing radiation therapy, and recognize when a patient's condition requires the attention of a physician; and
- assist in providing psychosocial support for patients who are dealing with the stress of their illness.

The Bachelor of Science in Radiation Therapy Technology is a four-year degree program consisting of two years of pre-professional courses and two years of professional courses. The program is accredited by the:

Joint Review Committee on Education in Radiologic Technology (http://www.jrcert.org)
20 N. Wacker Drive, Suite 2850
Chicago IL 60606-3182
312-704-5300.

The program complies with the professional curriculum of the American Society of Radiologic Technologists. Upon completion of the program, the student receives a Bachelor of Science Degree in Radiation Therapy Technology and is eligible to take the national certification examination administered by the American Registry of Radiologic Technologists.

Admission to Pre-professional Program

The first two years (pre-professional program) are taken in the College of Liberal Arts and Sciences, the admission requirements of which are satisfied by general admission (p. 22) to the University. Application forms are available from the Office of Admissions, University Welcome Center. Students should consult with the University Advising Center, 1600 Adamany Library, regarding course selection. Students are urged to seek additional pre-professional advisement by contacting the Office of Student Affairs in the Eugene Applebaum College of Pharmacy and Health Sciences for registration in a Monthly College Information Night.

Recommended High School Preparation: Students interested in a career in radiation therapy technology should take as many of the following high school courses as possible: biology, chemistry, mathematics, physics, computer science, keyboarding, speech, and composition.

Admission to Professional Program

Admission to the professional program requires completion of the above pre-professional course requirements and satisfaction of specific admission requirements listed below. The application deadline is on or about April 1 for matriculation into the professional program for the subsequent fall term.

Students should contact the University Advising Center (313-577-2680) prior to each fall term to obtain an updated list of pre-professional course and program admission requirements. The program faculty provides career advisement at the Eugene Applebaum College of Pharmacy and Health Sciences 'Monthly College Information Meeting held on the first Tuesday of each month. Attendance to at least one monthly meeting is a mandatory admission requirement prior to the beginning of the application process. Out-of-state applicants should contact a member of the Radiation Therapy Technology faculty for options to accommodate individual circumstances.

Since applicants who are admitted will eventually be working as a member of a health care team, the admissions committee evaluates candidates based on their personal qualities as well as their academic achievement. Therefore, throughout the interview and the completion of other application requirements, such criteria as a student's maturity, motivation, knowledge of the profession, interpersonal skills, personal integrity, and empathy for others is evaluated.

Professional Program Admission Requirements

The student applying to the professional program must meet the following admission requirements:

1. Completion of all pre-professional courses (or their equivalents) by the fall term in which admittance is desired.
2. Hold a combined cumulative grade point average of 2.50 or above (A = 4.00) for all college-level work at all institutions attended.
3. Completion of a professional program application (http://www.cphs.wayne.edu) and two reference forms.
4. Submission of official transcripts from all college institutions attended (other than Wayne State).
5. Attendance at a Monthly College Information Night (http://cphs.wayne.edu/admissions/before-you-apply.php) at the Eugene Applebaum College of Pharmacy and Health Sciences, held the first Tuesday of each month at 6:00pm. Out-of-state applicants should contact a Radiation Therapy Technology faculty member for options to accommodate individual circumstances.
6. Completion of two clinical visits to affiliate institutions for the program. Call 313-577-5711 to make an appointment. Out-of-state applicants should contact a Radiation Therapy Technology faculty member for options to accommodate individual circumstances.
7. Submission of two reference forms (available on the online application site): one from an employer/supervisor and one from a college professor/advisor.
8. Completion of at least 57 credit hours before starting the professional program requirements.
9. Satisfaction of the University General Education requirements.

The information requested in requirements 3, 4, 7, and 9 above, should be submitted to the Eugene Applebaum College of Pharmacy and Health Sciences, Office of Student Affairs, 259 Mack, Suite 1600, Detroit, Michigan.

Application Deadline: The deadline for applications is on or about April 1. Applications which are incomplete by the deadline or are submitted after that date will be considered only with the approval of the Program Director. Prospective students are urged to submit applications as early as possible after the fall term.

Application Review: All applications will be reviewed for completeness. The Admissions Committee will review all qualified applicants with completed applications submitted by the deadline date. The Admissions Committee will notify applicants of their interview status. Admission interviews are typically conducted in May of each year. A number of criteria will be evaluated, including academic achievement and personal

qualities. The Radiation Therapy Technology Program typically notifies each applicant of the final admission decision in June.

Pre-professional Program

Each of the following required pre-professional courses (or its equivalent) must be completed with a minimum grade of C (2.00 g.p.a., where A = 4.0)

First and Second Years

Code	Title	Credits
BIO 1500	Basic Life Diversity	4
BIO 1510	Basic Life Mechanisms	4
BIO 2870	Anatomy and Physiology	5
CHM 1020	Survey of General Chemistry	4
COM 1010	Oral Communication: Basic Speech	3
ENG 1020	Introductory College Writing	3
ENG 3010	Intermediate Writing	3
MAT 1800	Elementary Functions	4
PHY 2130	Physics for the Life Sciences I	4
PHY 2131	Physics for the Life Sciences Laboratory	1
PHY 2140	Physics for the Life Sciences II	4
PHY 2141	Physics for the Life Sciences Laboratory	1
PSY 1010	Introductory Psychology	4
PSY 2300	Psychology of Everyday Living	4
University Requirements (see General Education Program Requirements)		

Professional Program

Degree Requirements

Candidates for the degree Bachelor of Science in Radiation Therapy Technology must complete a minimum of 120 credits, plus sufficient credits to fulfill the University General Education Requirements (p. 34) not satisfied by either required courses or the student's choice of electives. The total course work will be distributed between two years of pre-professional courses and the two-year professional program as outlined below. Courses in the professional program are taken in the Eugene Applebaum College of Pharmacy and Health Sciences. Enrollment requires full-time student status for six consecutive terms (twenty-four months), during which time students take didactic and clinical courses. The clinical program includes approximately twenty hours per week of clinical education at multiple affiliate institutions in the greater metropolitan Detroit area. Such institutions include urban and suburban hospitals.

While most required courses are scheduled during usual daytime hours, students are required to attend some courses or individual class sessions in early evening.

Third Year		Credits
RT 3000	Concepts of Clinical Care	3
RT 3010	Introductory Radiation Physics	3
RT 3020	Clinical Radiation Physics	3
RT 3110	Clinical Aspects of Radiation Therapy	3
RT 3140	Topographic Anatomy and Medical Imaging	3
RT 3200	Therapeutic Interactions in Oncology Care	2
RT 3310	Clinical Practicum I	4
RT 3320	Clinical Practicum II	4
RT 3330	Clinical Practicum III	4
RT 5650	Pathophysio for Health Sciences	3
	Credits	32
Fourth Year		
RT 4110	Clinical Radiation Oncology	4
RT 4120	Basic Clinical Dosimetry	4
RT 4140	Oncologic Pathology	2
RT 4150	Radiobiology of Radiation Oncology	2
RT 4220	Radionuclide Physics	3
RT 4240	Radiation Therapy Technology Seminar	3
RT 4300	Quality Assurance	2
RT 4350	Clinical Practicum IV	4
RT 4360	Clinical Practicum V	4
RT 4370	Clinical Practicum VI	4
RT 5990	Directed Study in Radiation Therapy Technology (Max 5)	1-5
Elective [1]		3
	Credits	36-40
	Total Credits	68-72

1 Students are encouraged to take a course in the areas of management, education, humanities or social studies. The course selected may be used to fulfill the social science requirement of the General Education Requirements.

Scholarship

Students in the professional program are subject to high academic and professional standards. A grade of 'C' (2.00) or above is required in each professional course, and the student must maintain a term grade point average of 2.50 throughout the program. A grade of 'C-minus' (1.67) in

a professional course indicates unsatisfactory performance; repetition of the course is required, and review by the Academic Committee will occur. A second grade of 'C-minus' or below, or a single grade of 'D' or less (1.00 or less) will result in immediate dismissal from the professional program. Academic standards and program probation policies are subject to change. Academic standards and policies are published annually; copies are available upon request from the Radiation Therapy Technology Program.

Liability Insurance

Each student is required to have professional liability insurance during the entire length of the professional program. Neither the clinical affiliates, nor Wayne State University, assume liability for student actions during clinical education.

Radiologic Technology (B.S.)

Office: 5142 EACPHS; 313-916-1348
Program Director: Sarah Borland
Chairperson: Sara Maher

The Bachelor of Science in Radiologic Technology is a four-year degree program consisting of two years of pre-professional courses and two years of professional courses. The program complies with the professional curriculum of the American Society of Radiologic Technologists. Upon completion of the program, a student receives a Bachelor of Science Degree in Radiologic Technology and is eligible to take the national certifying examination administered by The American Registry of Radiologic Technologists.

The program is accredited by the:

Joint Review Committee on Education in Radiologic Technology (http://www.jrcert.org) (JRCERT)
20 N. Wacker Drive
Chicago IL 60606-3182
telephone: 312-704-5300; Fax: 312-704-5304

Admission to Pre-professional Program

The first two years (pre-professional program) are taken in the College of Liberal Arts and Sciences, the admission requirements of which are satisfied by general admission (p. 22) to the University. Students should consult with an Academic Services Officer in the Office of Student Affairs at the Eugene Applebaum College of Pharmacy and Health Sciences regarding course selection. Students may seek additional career advisement from the Radiologic Technology program faculty during their pre-professional program.

Recommended High School Preparation: Students interested in a career in Radiologic Technology should take as many of the following courses as possible: biology, chemistry, mathematics, physics, computer science, keyboarding, speech, and composition.

Admission to Professional Program

Admission to the professional program requires completion of the above pre-professional course requirements and satisfaction of specific admission requirements listed below. The application deadline is November 30 for matriculation into the professional program for the subsequent Spring/Summer term. Prospective students may contact the program for additional information early in their University studies (313-916-1348).

Students are urged to attend a Monthly Information Meeting (http://www.cphs.wayne.edu/meetings.php), held on the first Tuesday of each month, for advising and application deadline dates a year before they plan to enter.

Since the applicants who are admitted will eventually be working as members of a health care team, the admissions committee evaluates candidates based on their personal qualities as well as their academic achievement. Therefore, throughout the interview and the completion of other application requirements, such criteria as a student's maturity, motivation, knowledge of the profession, interpersonal skills, personal integrity, and empathy for others is evaluated.

Admission Requirements: The student wishing to apply to the professional program must meet the following admission requirements:

1. Completion (minimum grade of "C" 2.0 where A = 4.0) of all pre-professional courses (or their equivalents) by the end of the Winter semester, prior to beginning the professional program. BIO 3200 (or equivalent) must be completed by December of the year of application.
2. Hold a grade point average of 2.80 or above in pre-professional courses and 2.80 ('A' = 4.00) for all college level work at all institutions attended.
3. Completion of the professional program application (http://www.cphs.wayne.edu) form and associated requirements and submission of official transcripts to:

   Eugene Applebaum College of Pharmacy and Health Sciences
   Office of Student Affairs
   259 Mack Avenue, Suite 1600
   Detroit, MI 48201

APPLICATION DEADLINE: The deadline for applications is November 30. Prospective students are urged to submit applications as early as possible. Specific directions for submitting various application materials are indicated on the website.

APPLICATION REVIEW: All applications will be reviewed for completeness. The Admissions Committee will interview qualified applicants with completed applications submitted by the deadline date. A number of criteria will be evaluated, including academic achievement and personal qualities. Upon completion of all admission interviews, applicants will be notified of the final admission decision. This typically occurs in February.

Pre-professional Curriculum

Each of the following required pre-professional courses (or its equivalent) must be completed with a minimum grade of C (2.0 on a 4.0 scale).

First and Second Years

Code	Title	Credits
BIO 1510	Basic Life Mechanisms [1]	4
BIO 2870	Anatomy and Physiology	5
BIO 3200	Human Physiology	3
COM 1010	Oral Communication: Basic Speech	3
CSC 1000	Introduction to Computer Science	3
ENG 1020	Introductory College Writing	3
or ENG 1050	Freshman Honors: Introductory College Writing	
ENG 3010	Intermediate Writing (or any IC course)	3
MAT 1800	Elementary Functions	4
PHI 2320	Introduction to Ethics	3
PHY 1020	Conceptual Physics: The Basic Science (with lab)	4
PSY 1010	Introductory Psychology	4
or PSY 1020	Elements of Psychology	

PSY 2400	Developmental Psychology	4
STA 1020	Elementary Statistics	3
University Requirements (see General Education program)		
Total Credits		46

[1] Indicates courses or requirements that may be satisfied by examination or course work. Contact the WSU Office of Testing, Evaluation and Research at 313-577-3400 for further information.

Professional Curriculum

Third and Fourth Years

Third Year		
Spring/Summer Semester		**Credits**
RDT 3100	Introduction to Radiologic Technology	2
RDT 3200	Radiation Biology and Advanced Protection	3
RDT 3400	Clinical Education I	6
	Credits	11
Fall Semester		
RDT 3090	Directed Study	1
RDT 3300	Radiographic Procedures I	3
RDT 3600	Clinical Education II	6
RDT 6500	Pharmacolo	2
	Credits	12
Winter Semester		
RDT 3500	Patient Care	3
RDT 3700	Radiographic Procedures II	3
RDT 3900	Clinical Education III	6
	Credits	12
Fourth Year		
Spring/Summer Semester		
RDT 3800	Cross-Sectional Anatomy	3
RDT 4300	Clinical Education IV	6
	Credits	9
Fall Semester		
RDT 4100	Radiographic Quality/ Exposure	3
RDT 4200	Radiation Physics and Circuitry	3
RDT 4500	Clinical Education V	6
RDT 4800	Independent Study	1
	Credits	13
Winter Semester		
RDT 4400	Radiographi Pathology	3
RDT 4600	Radiology Seminar	3
RDT 4700	Clinical Education VI	6
RDT 4900	Jurisprudence for Radiographers	3
	Credits	15
	Total Credits	72

Additional undergraduate or professional courses may be needed to achieve the minimum 120 credits required to earn the degree.

Pharmaceutical Sciences

Office: 3610 EACPHS; 313-577-1047
Chairperson: George B. Corcoran
http://cphs.wayne.edu/sciences/index.php

The Eugene Applebaum College of Pharmacy and Health Sciences has established a combined undergraduate and graduate program for those admitted to the Doctor of Pharmacy (PharmD) program. Qualified senior students may enroll simultaneously in the undergraduate Bachelor of Health Science with a concentration in pharmaceutical sciences degree program and the graduate Doctor of Pharmacy (Pharm.D.) degree program and apply a maximum of thirty credits toward both the undergraduate and graduate degree.

Those who are enrolled in this program may expect to complete the B.H.S. pharmaceutical sciences concentration and the Pharm.D. degrees in seven years of full-time study.

NOTE: The B.H.S. pharmaceutical sciences concentration does not qualify the holder for licensure as a pharmacist. The Pharm.D. degree is required to qualify the holder for licensure as a pharmacist.

- Pharmaceutical Sciences Concentration (B.H.S.) (p. 346)
- Pharmacy (Pharm.D.) (p. 348)

Pharmaceutical Sciences Concentration (B.H.S.)

PLEASE NOTE: Application to or awarding of the Bachelor of Health Science with a concentration in pharmaceutical sciences degree retroactively or after a subsequent higher level degree in this discipline has been conferred is not permitted.

The Eugene Applebaum College of Pharmacy and Health Sciences has established a combined undergraduate and graduate program. Qualified senior students may enroll simultaneously in the undergraduate Bachelor of Health Science with a concentration in pharmaceutical sciences degree program and the graduate Doctor of Pharmacy (Pharm.D.) degree program and apply a maximum of thirty credits toward both the undergraduate and graduate degree.

Those who are enrolled in this program may expect to complete the B.H.S. pharmaceutical sciences concentration and the Pharm.D. degrees in seven years of full-time study.

NOTE: The B.H.S. pharmaceutical sciences concentration does not qualify the holder for licensure as a pharmacist. The Pharm.D. degree is required to qualify the holder for licensure as a pharmacist.

Admission Requirements

All applicants must satisfy the undergraduate admission (p. 22) requirements to the University. Admission to the Doctor of Pharmacy degree program (see below) prior to the beginning of the senior year is required for completion of the B.H.S. pharmaceutical sciences concentration program. Admission to the Pharm.D. program is highly competitive. Students should refer to the Graduate Bulletin for admission and course requirements for the Pharm.D. degree.

Program Administration

The Office of Student Affairs in the Eugene Applebaum College of Pharmacy and Health Sciences will certify completion of the B.H.S. pharmaceutical sciences concentration/Pharm.D. program. When students complete requirements for the B.H.S. pharmaceutical sciences concentration, they will complete an application for graduation with accompanying fee in order for the graduation audit to be completed prior to degree certification. Information about applying for degree can be found at online (http://reg.wayne.edu/students/graduation.php).

The B.H.S. pharmaceutical sciences concentration degree requires completion of a minimum of 120 credits consisting of courses prerequisite to admission to the Pharm.D. program and courses that comprise the first year of that program. This curriculum is outlined below as science prerequisites, non-science prerequisites, General Education Requirements (p. 34), and First Professional Year requirements.

All course work for the B.H.S. pharmaceutical sciences concentration must be completed in accordance with the academic procedures of the University (p. 11) and the College (p. 329) governing undergraduate scholarship and degrees. Students will need to complete 120 credits with a g.p.a. of 2.0 or better, including courses taken that apply to the pharmaceutical concentration. Students who have successfully completed at least the first professional year in the Pharm.D. program at Wayne State University are eligible for the B.H.S. pharmaceutical sciences concentration degree.

Code	Title	Credits
Science Requirements		
BIO 1510	Basic Life Mechanisms	4
BIO 2200	Introductory Microbiology	5
BIO 2870	Anatomy and Physiology	5
BIO 3200	Human Physiology	3
CHM 1220	General Chemistry I	4
CHM 1230	General Chemistry I Laboratory	1
CHM 1240	Organic Chemistry I	4
CHM 1250	Organic Chemistry I Laboratory	1
CHM 2220	Organic Chemistry II	4
CHM 2230	Organic Chemistry II Laboratory	1
CHM 5600	Survey of Biochemistry	3
MAT 2010	Calculus I	4
PHY 2130	Physics for the Life Sciences I	4
PHY 2131	Physics for the Life Sciences Laboratory	1
Non-Science Prerequisites		
COM 1010	Oral Communication: Basic Speech	3
ENG 1020	Introductory College Writing	3
STA 1020	Elementary Statistics	3
Additional General Education Requirements		
Social Inquiry (SI)		3
Cultural Inquiry (CI)		3
Global Learning Inquiry (GL)		3
Diverstiy, Equity & Inclusion Inquiry (DEI)		3
Civic Literacy Inquiry (CIV)		3

First Professional Year (P-1) Requirements

Fall Semester		Credits
PHA 4105	Pathophysiology 1	3
PHA 4125	Drug Literature Evaluation and Foundations of Research	3
PSC 4115	Pharmaceutics I	3
PSC 4125	Introduction to Pharmaceut Sciences: Medicinal Chemistry / Pharmacolo Immunology	3
PPR 4115	Social Administrative Sciences and Professional Development I	2
	Credits	14
Winter Semester		
PHA 4205	Pathophysiology II	2
PHA 4225	Principles of Pharmacoth I: Respiratory, Gastroenter Allergy, Ophthalmolc	4
PHA 4235	Pharmacotherapeutic Problem Solving I: Respiratory, Gastroenterology, Allergy, Ophthalmology	2
PSC 4215	Pharmaceut II	2
PSC 4225	Autonomic Pharmacology	2
PPR 4245	Patient Care Lab 1	1
PPR 4255	Social Administrative Sciences and Professional Development II	2
	Credits	15
Spring/Summer Semester		
PPR 4315	Pharmacy Jurisprudence	2
PPR 4365	Introductory Pharmacy Practice Experience I	1

PHA 4395	Research Scholars: Research Development	2
	Credits	5
	Total Credits	34

Additional undergraduate or professional courses may be needed to achieve the minimum 120 credits required to earn the B.H.S. degree.

Clinical Education Requirements

Clinical Education is provided throughout the Pharm.D. program including during the required B.H.S. pharmaceutical sciences concentration courses. Patient care involves inherent risk of exposure to potential diseases, particularly blood-borne pathogens, and the risk of possible mishaps in patient care. Therefore, all students are required to maintain health insurance coverage and liability insurance, both of which must be in effect prior to and during all periods in which the student is involved in clinical education. The student is responsible for the cost of these insurances and all other costs (such as travel, parking) associated with the clinical experiences throughout the program.

Pharmacy (Pharm.D.)

The Pharm.D. is a graduate degree program which requires specific preparation at the undergraduate level herein cited as pre-professional course work. Thus the admission process may be construed as two-tiered in that students must complete specific pre-professional course work and may apply to the Pharm.D. program prior to their senior year. One such route into the Pharm.D. program is by way of the B.H.S. pharmaceutical sciences concentration.

Pre-professional Admission (Pharm. D.)

Admission requirements: The pre-professional program is taken in the College of Liberal Arts and Sciences for which admission requirements are satisfied by the general requirements for undergraduate admission (p. 22) to the University. Counselors are available in the Office of Admissions for personal conferences to aid the prospective student.

Recommended High School Preparation: Fifteen units of high school work are required for admission. The following units are recommended:

English: 4 units
Foreign Language: 1-2 units
Mathematics: 4 units
Laboratory Science: 3 units
Social Studies and History: 2 units

Students will find it advantageous to have had at least one year each of algebra, biology, chemistry, and physics. English, mathematics, and science are strongly recommended.

Applicants whose first language is not English must satisfy the University's English proficiency requirements (p. 19). If coursework was completed at a non-US institution, transcripts must be evaluated by a WSU approved evaluation service (WES). The official course-by-course evaluation must be sent to PharmCAS and to Wayne State University.

Pre-professional Course Requirements

The undergraduate pre-professional preparation for admission to the Pharm.D. degree program is cited in the B.H.S. with a concentration in pharmaceutical sciences (p. 346) section of this bulletin. These courses (or their equivalents) may be taken at Wayne State University, another university, or a community college. All prerequisite courses and General Education Requirements should be completed prior to admission to the pharmacy curriculum. All such courses (or their equivalents) must be completed with the grade of C (2.0 g.p.a.) or better. Grades of C-minus or below, or numerical grades below 2.0 g.p.a., are not acceptable.

Because of rapid changes in technology, pre-professional science credits must be completed within six years prior to admission to the professional program.

The Pharmacy College Admission Test (PCAT)

The PCAT (http://www.pcatweb.info) is required for admission. This standardized examination is offered in major cities multiple times per year and must be completed no later than the year prior to admission. PCAT exam scores within 5 years of the application deadline are accepted.

Professional Program Admission

Admission to the Doctor of Pharmacy Curriculum is granted only for the Fall semester. Enrollment in this curriculum is limited to applicants who have met the general University admissions requirements by the stipulated deadline, who satisfy the admission criteria stated below, and who present evidence of professional admissibility and promise of academic and professional competence in pharmacy.

Application: Admission applications to the Doctor of Pharmacy curriculum are available through the Pharmacy College Application Service (PharmCAS) (http://www.PharmCAS.org).

Application Deadline: Deadline for submission of complete application materials to PharmCAS is November 1.

Admission Criteria: Admission to the Doctor of Pharmacy curriculum is competitive and the following criteria are used to evaluate applications from prospective students. Admission decisions are made by the Admissions Committee of the College.

1. Minimum cumulative undergraduate grade point average (g.p.a.) of 2.75 as calculated by PharmCAS. Completion of prerequisites with minimum grades does not guarantee admission.
2. Minimum prerequisite grade point average (g.p.a.) of 3.0 (4-point system) calculated on the final grades earned in the required pre-professional courses as calculated by the Wayne State University pharmacy admissions committee. No less than a 'C' grade (2.00 on a 4.00 scale) in any prerequisite course. Completion of prerequisites with minimum grades does not guarantee admission.
3. Promise of success in a professional curriculum. Transcripts are evaluated for continued success in a full-time, science-based curriculum. Patterns of course repetition and excessive withdrawals are considered. It is recommended that applicants have repeated not more than two mathematics and science courses in order to improve grades.
4. Two completed professional recommendations must accompany the completed application form. The applicant is encouraged to solicit the recommendations from two faculty members or one faculty member and one employer.
5. Applicants must include a personal resume, outlining community or vocational activities, honors, employment, extracurricular and volunteer activities, if invited to interview for the program.
6. All applicants must take the Pharmacy College Admissions Test (PCAT). A preferred composite score of 50th percentile or higher is required. Applicants with a score lower than 50% percentile will be considered for admission only if their prerequisite GPA is greater than or equal to 3.2. Additionally, 50th percentile or higher in each of the following sections: chemical processes, biological processes and quantitative reasoning, and 25th percentile or higher in and the critical reading section is preferred.

7. Applicants whose first language is not English must satisfy the University's English proficiency requirements.
8. A personal interview is required.
9. Students who are offered admission to the Pharm.D. program will have a Criminal Background Check. This will be performed by Certiphi, Inc through PharmCAS. Matriculation into the program will depend on the results of that check.

Further information concerning the Doctor of Pharmacy Program can be found in the Wayne State University Graduate Bulletin.

Pharmacy Practice

Office: 2190 EACHPS; 313-577-0115
Chairperson: Lynette R. Moser, Interim
http://cphs.wayne.edu/practice

The WSU Doctor of Pharmacy program educates students to become valued providers of health care services. Our graduates use evidenced-based practice to ensure optimal health of the patient and of the public and will provide leadership in advancing pharmacy practice and health policy.

The practice of pharmacy has experienced profound changes during the past three decades as its traditional role in drug distribution has increasingly expanded to incorporate the concept of comprehensive medication management. This philosophy charges pharmacists with the responsibility for providing drug therapy that achieves defined results and improves a patient's quality of life. Pharmacists are expected to interact with patients and other health care providers to assure that the drug therapy prescribed is appropriate, administered, and monitored in a way that assures achieving the desired outcomes.

The ability of pharmacists to play an increasingly active role in drug therapy is being recognized at state and national levels. At the state level pharmacists have been recognized as having the ability to initiate or modify drug therapy, either through collaboration with a physician or by independent authority. In Michigan, pharmacists are allowed to prescribe under delegated authority of a licensed practitioner. Examples of services provided by pharmacists include:

- disease state screening (examples are: blood pressure monitoring for hypertension, glucose monitoring for diabetes, cholesterol monitoring, bone densitometry for osteoporosis)
- monitoring and adjusting anticoagulation therapy
- monitoring and adjusting antibiotic therapy.

A major impetus for these changes is a result of the realization of the added value of pharmacists input into therapeutic decision making in a manner that can result in cost reduction through prevention of problems arising from adverse drug experiences, drug-drug and drug-food interactions, errors in prescribing or administering medications, and poor adherence.

The Doctor of Pharmacy (p. 348) program at Wayne State University is offered through the Departments of Pharmacy Practice and Pharmaceutical Sciences. The pre-professional components of the program are described in the Department of Pharmaceutical Sciences (p. 347) section of this bulletin. The professional curriculum is described in detail in the Wayne State University Graduate Bulletin.

SCHOOL OF SOCIAL WORK

Dean: Sheryl Kubiak

The School of Social Work is an integral part of Wayne State University, an urban university in a culturally diverse, industrialized, metropolitan area. The School is committed in its teaching, research, and service activities to address the problems of people living in this environment. Through applied research, work in the classroom and placements in human service organizations that are the sites for field education, students learn how to provide effective social services and influence social policies.

The specific mission of the School lies in teaching the knowledge, values, ethics and skills of the social work profession. Graduates of the School are expected to understand the needs of vulnerable populations and those for whom the quality of life is threatened. Through research on practice, faculty and doctoral students contribute to the knowledge base of the social work profession. Both faculty and students serve the community by participating in professional societies, civic and community groups, and human service organizations.

Social Work study prepares professionals to help alleviate the challenges in living for individuals affected by poverty, racism, sexism, ageism, homophobia, unemployment, as well as those experiencing emotional issues and/or physical and developmental impairments. Social work students learn theoretical perspectives and evidence-based methods of practice to guide competent intervention with individuals, families, groups, communities, and organizations. Doctoral students master advanced research competencies required to engage in applied research for social work practice and social welfare policy. Consistent with its emphasis on serving individuals in the Detroit metropolitan area, the School shares a commitment with the University for recruiting students of minority ethnic backgrounds.

The School of Social Work offers opportunity for study at the undergraduate and graduate levels to prepare students for practice in the profession of social work. Its principal programs lead to the Bachelor of Social Work and the Master of Social Work degree.

Curriculum: The Bachelor of Social Work degree program prepares students for entry-level generalist practice. Course work in this program includes University-wide General Education Requirements as well as the core competencies for social work practice. An introductory elective course, SW 1010, is offered that is open to freshman and sophomore students interested in exploring the profession of social work but not yet matriculated in the B.S.W. program. Non-degree elective courses are also available for those who have previously earned bachelor's and/or master's degrees in social work or other disciplines and wish to further their education by acquaintance with social work issues. At the graduate level the Master of Social Work degree program includes concentrations in Interpersonal Practice and Innovation in Community, Policy, and Leadership. The School also provides continuing education institutes and workshops for persons employed in the fields of social work and social welfare.

Informational Meetings: The School holds bi-weekly informational meetings (http://www.socialwork.wayne.edu) to acquaint prospective students with its Bachelor of Social Work and Master of Social Work programs. Ph.D. Program informational meetings are held monthly during the fall semester of each academic year. Potential program applicants are encouraged to attend a meeting focused on the program of his/her interest prior to applying for admission.

Accreditation

The Bachelor of Social Work and the Master of Social Work degree programs are accredited by the Council on Social Work Education, the national accrediting body for professional social work education. There is no accreditation process for doctoral programs in social work; however, the School is a member of the Group for the Advancement of Doctoral Education in Social Work, the professional organization that provides guidelines and oversight for doctoral degree programs in social work.

Academic Regulations

For complete information regarding academic rules and regulations of the University, students should consult the Academic Regulations (p. 11) section of this bulletin. The following additions and amendments pertain to the School of Social Work.

Students in the School of Social Work are responsible for informing themselves of all rules, regulations and requirements, complying with all official procedures, and fulfilling all course and degree requirements in proper sequence with satisfactory scholarship. In case of doubt regarding any matter, the student should consult the School's Academic Services Officer. The primary responsibility rests with the student. All students are required to file a *Plan of Work* with the School's Academic Services Officer, and to update the plan periodically. Electives should be selected in consultation with the School's Academic Services Officer.

The faculty of the School of Social Work has the responsibility to require a student to withdraw at any time prior to receipt of the degree when, in its judgment, the student fails to do satisfactory work. Such decisions may be based on deficiencies in performance in class or field or in personal fitness for the profession. The faculty has adopted a set of criteria and procedures for academic termination. Copies are available via the School of Social Work's website and also may be obtained in the Dean's office.

Every effort is made to assist students whose academic work suffers as a result of conditions beyond their control such as personal illness, serious illness in the immediate family, or similar extenuating circumstances.

Attendance and Residency

Students are expected to attend all sessions of courses for which they are registered and to notify the instructors or their secretaries prior to the class session, if possible, when absence is necessary due to illness or similar emergency. Absence from the field practicum must be reported prior to the scheduled time, both to the agency and the faculty field liaison. Consistent absence or tardiness in classes or the field practicum may have an adverse effect on the student's grade and may result in termination from the B.S.W. program.

A student must complete thirty semester credits in the School of Social Work and must be in residence during the final semester prior to graduation.

Maximum Hours

A student engaged in full-time or part-time study in the School of Social Work should plan a program in consultation with the Academic Services Officer, limiting the Plan of Work to required courses and electives in order to maintain a standard of scholarly attainment and academic excellence.

Application for Degree

Application for the degree must be filed in the University Records Office no later than the Friday of the 4th week of classes for the semester in which the student expects to complete the requirements for the degree. The applicant must be recommended for the degree by the faculty. The

applicant is requested and expected to attend the commencement at which the Bachelor of Social Work (B.S.W.) degree is conferred.

Academic Credit and Work/Life Experience

No academic credit for life experience or previous work experience will be awarded in the Bachelor of Social Work or Master of Social Work degree programs, in whole or in part, in lieu of the field practicum or of courses in professional foundation areas.

Student Leave of Absence

A student who is in good standing in the Bachelor of Social Work degree program may request a leave of absence from course and field work in the School for up to one year. In order to be considered in good standing, a B.S.W. student must maintain grades of 'C' or better in classroom courses in the B.S.W. (professional) component of undergraduate study, and must not earn marks below Satisfactory in field work. Upon return from an approved leave of absence, a student's revised plan of work is based on the time in the academic year when the leave of absence was granted. If a student leaves at or before mid-semester, then she or he will have to repeat course or field work. Specific information on the procedure for requesting a leave of absence is available in the Office of Admissions and Student Services. Students may request one leave of absence for up to one academic year during the time they are enrolled in the degree program.

Withdrawal from Degree Programs

A student who has been admitted to the Bachelor of Social Work degree program or the Master of Social Work degree program shall be considered to have withdrawn if he/she is not enrolled in a course or field work during any semester of an approved planned program of study. In order to withdraw in good standing from any degree program, a student must formalize the withdrawal from the program with the Director of Admissions and Student Services. A copy of the procedure for withdrawal may be obtained from the School of Social Work 's Office of Admissions and Student Services.

Nondiscrimination Policies

The School is bound by and actively endorses the university policy (p. 64) of nondiscrimination respecting all persons regardless of race, color, sex, national origin, religion, age, sexual orientation, marital status or physical or mental disability, and which expressly forbid sexual harassment or discrimination in hiring. The School prohibits discrimination against individuals because of political orientation. Copies of School and University nondiscrimination policies may be obtained in the Office of the Dean.

Social Work (B.S.W. Program)

The Bachelor of Social Work (B.S.W.) degree program prepares students for entry-level generalist social work practice during the junior and senior years of undergraduate matriculation. The B.S.W. curriculum is comprised of approximately two-thirds professional social work undergraduate core courses and one-third co-requisite and elective courses. The Field Practicum is an integral part of the B.S.W. curriculum and requires students to apply their coursework to community-based settings within a supervised learning environment.

The B.S.W. program features full-time or extended part-time study. Instruction is classroom based (traditional), hybrid (a combination of classroom and online instruction), and a fully online cohort instruction (WOW! Program (https://socialwork.wayne.edu/bsw/online)). Regardless of whether students are in the face to face program or the online program, all students must participate in the field practicum which requires their physical presence at the community-based setting for 16 hours per week (two full days) during the senior year. Students can be admitted to the B.S.W. program during any term. However, the formal professional curriculum begins in the Fall semester.

Admissions Process

Direct Admit for Freshmen

Students in this category are admitted through the Office of Undergraduate Admissions (p. 22) and complete general education/pre-professional courses offered through the Wayne State University College of Liberal Arts and Sciences.

Prior to beginning the professional curriculum that commences in the Fall semester of the junior year, students majoring in social work must meet the following criteria.

- Grade point average of 2.5 or above.
- Submit an admissions portfolio that consists of:
  - Personal Interest Statement to the School of Social Work.
  - Educational resume
  - Documentation of completion of required community service hours.

Students must also attend a required advising session to learn about the professional and ethical requirements of the major and discuss fitness for the profession. Completion of SW 1010 may be sufficient to meet these requirements.

Additional details on the process and due dates can be found on the School of Social Work (https://socialwork.wayne.edu/bsw/requirements) website.

Transfer Admissions

Students in this category are admitted through the Office of Undergraduate Admissions (p. 22). Applications for admission to the B.S.W. program may be submitted after the student has completed a minimum of twenty-four semester credits in undergraduate course work or its equivalent at the freshman and sophomore levels. Applicants must have earned a minimum overall grade point average of 2.5. Applicants must have completed specified social work pre-professional courses, submit the admissions portfolio (personal interest statement, educational resume, and documentation of community service hours), and attend a required advising session.

Completed applications are given careful review in order to admit students who show evidence of suitability and fitness for the profession of social work and the ability to successfully complete their undergraduate professional education in social work.

All B.S.W. programs start in the fall semester.

Main campus, Full-time
Main campus, Part-time
University Center Macomb
Where Online Works! (WOW!)
Schoolcraft Center Hybrid Program

Application Deadline: April 1

All applicants are encouraged to submit applications as soon as possible as admissions will close once program capacity has been reached. Applications may be submitted beginning in the Fall term prior to the student's anticipated start of the first term of the program.

All students admitted to a B.S.W. program must attend the mandatory orientation prior to beginning the professional curriculum in the fall semester.

Admission to a B.S.W. program is conditional until all application requirements are completed. The student must present a transcript verifying completion of sixty semester credits, grade point average, and completed pre-professional coursework and admissions portfolio. The letter of admission does not constitute a contract; admission may be withdrawn if a student fails to meet program requirements.

Transfer of Undergraduate Credit: No more than sixty-four (64) semester credits from two-year colleges may be applied toward the B.S.W. degree, with the exception of colleges that have articulation agreements with Wayne State University and the School of Social Work. A maximum of twelve (12) Technical, Vocational, or Applied Practice credits (designated 'TVA') in the human service areas (for example, mental health, child care, gerontology, empathy training, human services and substance abuse) will count toward the degree. Any such transfer credits will be counted as general elective credit. Social work courses from programs not accredited by the Council on Social Work Education (CSWE) also will be transferred as 'TVA' general elective credit.

Readmission

Students who have been enrolled in a planned program leading to the Bachelor of Social Work degree, who have withdrawn from the program, and who wish to be considered for readmission to complete degree requirements, must follow regular procedures for admission to the School, including the submission of an updated admissions portfolio Generally, the B.S.W. curriculum requires that students complete two continuous terms of field practicum when actively enrolled in the program. Readmitted students who previously completed only one term of field work in the senior year will be required to repeat this term, and may be required to enroll concurrently in a course or courses in social work practice methods or a Directed Study in social work.

Students requesting readmission may be required to obtain assessments of their physical or mental health from health or mental health professionals approved by the School. The School of Social Work reserves the right to refuse to readmit a student to the social work program if the physical or mental health status of the student indicates such action is warranted in order to safeguard clients, agencies, the student, other students, or the School.

Pre-professional Requirements

To qualify for admission to the Bachelor of Social Work program in the School of Social Work, sixty semester credits (or its equivalent) must have been completed at the freshman and sophomore levels of undergraduate study. The required credits must be distributed according to one of the curricular patterns cited below. Many pre-social work courses also help satisfy the University General Education Requirements. These courses are indicated by parenthetical two-letter prefixes to their titles. Students may also select elective curriculum credits at the freshman and sophomore levels of undergraduate study from professional schools such as the Mike Ilitch School of Business, the College of Education, the College of Nursing, and the School of Social Work.

Social Sciences: The following distribution of courses is required.

1. (DEI) Introduction to Social Work and Social Welfare: 3 credits
2. (GL) History: 3-4 credits
3. (CIV) American Government: 3-4 credits
4. (SI) Introductory Sociology: 6-8 credits

Natural Sciences: The following distribution of courses is required, including a laboratory course in one of areas designated below.

1. (NSI) Biology: 3-4 credits
2. (NSI) Introductory Psychology: 6-8 credits
3. (NSI) One course (3-4 credits) to be selected from the following: Anthropology, Physics, Chemistry, Geology, Astronomy.

Humanities: The following distribution of courses is required.

1. (CI) Philosophy/Letters: 3 credits
2. (CI) Humanities: 3 credits

English: The following distribution of courses is required.

1. (BC) Freshman Composition: 4 credits
2. (IC) English Elective (2000 level or above): 3 credits

(OC) Communications*:* 2-3 credits

(QE) Quantitative Experience: 3 credits

(DEI) Diversity, Equity and Inclusion: 3-4 credits

(WE) Wayne Experience: 3 credits

Electives*:* Recommended: Select electives from General Education Requirements in Global Learning (GL), Social Inquiry (SI) and Diversity, Equity and Inclusion (DEI). Electives should be selected in conjunction with the School's Academic Services Officer.

B.S.W. Degree Requirements

The Bachelor of Social Work degree requires satisfactory completion of a minimum of one hundred twenty (120) credits. The sixty (60) credits in the freshman and sophomore years include prerequisite courses for admission to the professional component of the program, sixty (60) credits in the junior and senior years, and forty-nine (49) credits in field work and field-related courses. Electives are available to complete the required one hundred and twenty credits for graduation.

Grade Point Average: To be awarded a Bachelor of Social Work degree, the student must achieve a cumulative grade point average of 2.0, and a grade point average of 2.0 during the junior and senior years. A minimum of thirty credits must be earned in residence in the School of Social Work, and the student must be in residence during the final semester prior to graduation.

Student Professional Conduct Requirements: Any breach of the values and ethics of the social work profession articulated in the Professional Code of Ethics as established by the National Association of Social Workers (NASW) (1996; 2017) may result in termination from the B.S.W. program. Student violations of the Wayne State University Student Code of Conduct will be forwarded to the University Student Conduct Officer for review and disposition. Students who apply with past, current and/or pending legal charges of record may be eligible and admitted to the B.S.W. program; however, an interview with Director of the Office of Admissions and Student Services and the Director of Field Education is required during the admissions process to review the circumstances and disposition of such legal charges. Legal charges of record may have implications for Field Agency Placement and Social Work Licensure. An agency placement is a non-negotiable requirement for Field Education to complete the B.S.W. Program. Social Work Licensure is required for B.S.W. graduates to identify and practice as Social Workers.

Curricula

The undergraduate social work curriculum is structured to provide the knowledge, values and skills essential for entry-level generalist social work practice. It is comprised of five curricular areas: 1) human behavior and the social environment, 2) research, 3) social work, 4) practice, 5) social welfare policy and services, and field education. The professional component of the curriculum is built upon a liberal arts foundation in the social and behavioral sciences, the humanities, English, mathematics, and the natural sciences.

Students enrolled in field education are placed in a wide variety of social service agencies and work directly with individuals, families, groups, organizations and communities. Emphasis is placed in providing social work services in urban areas with the poor and oppressed, persons of color, and other at-risk populations that represent many ethnic, racial and cultural groups. The field experience is designed to integrate the classroom curricula with the practical realities of social work practice. Field work builds the skill and knowledge base of the student, and stresses both amelioration and prevention of personal, interpersonal and social problems, as well as improvement of the human condition.

All students are required to file an educational Plan of Work with the School of Social Work Academic Services Officer and to update this plan on a regular basis.

Online Program: The B.S.W. degree is also offered as a fully online program of study during the junior and senior year, with the exception of the field placement, which must be completed at the physical site of the organization to which the student is assigned. Online curriculum requirements are identical to the traditional B.S.W. classroom "on campus" program option, and may require students to work in teams or conduct research in the community as part of their course requirements.

Students interested in matriculating in the online program must have access to an updated computer system and related software necessary for successful completion of all courses, and must also be able to manage their time and schedules to accommodate the demands of an online program and the field placement. Curriculum requirements are listed below.

The admissions process is the same as the traditional program with the exception that the program utilizes the cohort model structure. Once enrolled, students may NOT register for any B.S.W. courses offered in a campus classroom setting. Interested students should visit the School website (http://www.socialwork.wayne.edu) for additional information.

Required Professional Content

Third Year

First Semester		**Credits**
SW 3010	Social Work Practice Method I	4
SW 3030	Professional Writing for Social Workers	2
SW 3510	Human Behavior in the Social Environment	3
SW 3710	Social Welfare and the Social Work Profession: History, Trends and Basic Concepts	3
	Credits	12
Second Semester		
SW 3020	Social Work Practice Method II	3
SW 3110	Diversity, Oppression and Social Justice	3
SW 3410	Foundations of Ethics and Values in Social Work	3
SW 3810	Research Methods, Data Analysis, and Practice Evaluation I	3
	Credits	12

Fourth Year

First Semester		
SW 4010	Social Work Group Theory and Practice	3
SW 4441	Field Education Seminar I	1
SW 4710	Social Welfare in the United States: Current Programs	3
SW 4810	Research Methods, Data Analysis, and Practice Evaluation II	3
SW 4998	Field Practice in Social Work	5
	Credits	15
Second Semester		
SW 4020	Social Work Macro Theory and Practice	3
SW 4442	Field Education Seminar II	1
SW 4997	Integrative Seminar in Social Work	3

SW 4998	Field Practice in Social Work	5
	Credits	12
	Total Credits	51

Electives

Electives must be selected in consultation with the School of Social Work Academic Services Officer.

Social Work Honors Program

Social Work students of high achievement are eligible to participate in the School of Social Work Honors Program, available through the University Honors College and the School of Social Work. Honors Option credits are achieved by completing enhanced assignments in connection with specified social work courses during the junior and senior years. All Social Work Honors Option course work and the final Honors Thesis are to be completed within the required social work curriculum, under the approval and supervision of a social work instructor. All Honors Options and the final thesis will include work beyond normal course requirements, to be agreed upon between the student and instructor.

Students interested in applying to the Social Work Honors Program must present a cumulative grade point average of 3.50 or better, submit an application to the BSW Coordinator, and develop an academic plan of work with the School of Social Work Academic Services Officer. Honors Option forms are available through the Honors College website. The Honors Option form must be signed by the instructor and the BSW Coordinator and must be returned to the Honors College before the published deadline each semester, usually within the first 2-3 weeks of the start of the semester.

It is the student's responsibility to make sure that the Honors Option instructor reviews and grades the completed work and that the grade is submitted properly to the Honors College. Students are required to complete a minimum of twelve credits under the Honors Option (9 credits of enhanced coursework, and 3 credits of honors thesis) and maintain a cumulative grade point average of at least 3.50. Additional information is available from the BSW Coordinator.

Field Education

All students enrolled in SW 4998, Field Practice in Social Work I and II, are required to carry professional liability insurance as a condition of field placement.

The Field Education Manual contains a description of the field education program and the policies and procedures related to the program. Students are responsible for observing the procedures governing field work practice which are detailed in the manual. The manual is distributed to each student enrolled in SW 4998.

Field Education Health Clearances Policy

The School may require students in field placement to obtain assessments of their physical or mental health from health or mental health professionals approved by the School. The School of Social Work reserves the right to refuse to place or direct a student in field education if the physical or mental health status of the student indicates such action is warranted in order to safeguard clients, agencies, the student, other students, or the School.

The following agencies are representative of those who have worked with members of the Faculty in field instruction during recent academic years:

ACCESS

ADULT WELL-BEING SERVICES

AFFIRMATIONS

ALGONAC COMMUNITY SCHOOLS

ALTERNATIVES FOR GIRLS

ALZHEIMER SOCIETY OF WINDSOR & ESSEX COUNTY

ALZHEIMER'S ASSOCIATION - GREATER MICHIGAN CHAPTER

AMERICAN RED CROSS

ANCHOR BAY SCHOOL DISTRICT

ANGELA HOSPICE

ANN ARBOR CENTER FOR INDEPENDENT LIVING

ARAB-AMERICAN AND CHALDEAN COUNCIL

ARC SERVICES OF MACOMB, INC.

BARBARA ANN KARMANOS CANCER INSTITUTE

BAY ARENAC BEHAVIORAL HEALTH

BEHAVIORAL CENTER OF AMERICA - STONE CREST CTR.

BEHAVIORAL CENTER OF MICHIGAN

BERKLEY SCHOOL DISTRICT

BETHANY CHRISTIAN SERVICES

BETHANY VILLA SENIOR APARTMENTS

BIG BROTHERS BIG SISTERS WASHTENAW

BLACK FAMILY DEVELOPMENT, INC.

BLUE CROSS BLUE SHIELD OF MICHIGAN

BLUE WATER CENTER FOR INDEPENDENT LIVING

BRIDGING COMMUNITIES INC.

BULIMIA ANOREXIA NERVOSA ASSOCIATION

C.A.R.E.

CANADIAN MENTAL HEALTH ASSOCIATION

CAPUCHIN SOUP KITCHEN

CARE HOUSE MACOMB

CARE HOUSE OF OAKLAND COUNTY

CARE MATTERS

CAREFIRST COMMUNITY HEALTH SERVICES

CATHOLIC CHARITIES OF SOUTHEASTERN MICHIGAN

CATHOLIC SERVICES OF MACOMB

CATHOLIC SOCIAL SERVICES

CEI COMMUNITY MENTAL HEALTH CENTER FOR EXCEPTIONAL FAMILIES

CENTER FOR SOCIAL WORK RESEARCH

CHALDEAN AMERICAN LADIES OF CHARITY

CHILDREN'S CENTER

CHILDREN'S HOSPITAL OF MICHIGAN

CHIPPEWA VALLEY SCHOOLS

CHRIST CHILD HOUSE

CITY CONNECT DETROIT INC.

CITY OF SOUTHFIELD-OLDER ADULT SOCIAL WORKER

CLARKSTON COMMUNITY SCHOOLS

COMMON GROUND SANCTUARY

COMMUNITY AND HOME SUPPORTS, INC.

COMMUNITY CARE SERVICES

COMMUNITY HOUSING NETWORK, INC.

COMMUNITY LIVING SERVICES

COMMUNITY PROGRAMS, INC.

COMPREHENSIVE YOUTH SERVICES, INC.

CONSUMER SERVICES, INC. CORNELL CENTER

COVENANT HOUSE MICHIGAN

CROSSROADS FOR YOUTH

CROSSROADS OF MICHIGAN

DADS AND MOMS OF MICHIGAN

DEARBORN PUBLIC SCHOOLS

DEPARTMENT OF HEALTH AND HUMAN SERVICES

DEPARTMENT OF VETERANS AFFAIRS

DETROIT AREA AGENCY ON AGING

DETROIT BOARD OF EDUCATION

DETROIT CENTRAL CITY CMH, INC.

DETROIT CITY COUNCIL

DETROIT EAST COMMUNITY MENTAL HEALTH

DETROIT RECOVERY PROJECT

DETROIT RESCUE MISSION MINISTRIES

DETROIT WAYNE MENTAL HEALTH AUTHORITY

DEVELOPMENT CENTERS, INC.

DMC-HARPER HOSPITAL

DOCTORS' HOSPITAL OF MICHIGAN

DON BOSCO HALL

EAST CHINA SCHOOL DISTRICT

EASTER SEALS

EASTWOOD CLINIC, ST. JOHN

EMPOWERED LIVING HUMAN SERVICES

ENNIS CENTER FOR CHILDREN

EQUALITY MICHIGAN

ESSEX COUNTY DIVERSION PROGRAM

FAMILY CARE NETWORK

FAMILY SERVICE, INC.

FARMINGTON PUBLIC SCHOOLS

FIRST STEP

FISCHER AND CARDAMONE, LLC

FOREVER FAMILIES

FOX RUN VILLAGE

FRASER PUBLIC SCHOOLS

GENESEE HEALTH SYSTEM

GILDA'S CLUB METRO DETROIT

GENESEE HEALTH SYSTEM

GRANDMONT ROSEDALE DEVELOPMENT CORP.

GROSSE POINTE PUBLIC SCHOOLS

GUIDANCE CENTER

HANDS ACROSS THE WATER

HARBOR OAKS HOSPITAL

HARPER WOODS PUBLIC SCHOOLS

HAVENWYCK HOSPITAL

HAWTHORN CENTER

HAZEL PARK SCHOOLS

HEARTLAND HEALTHCARE CENTER

HEARTLAND HOSPICE

HEGIRA PROGRAMS, INC.

HENRY FORD HEALTH SYSTEM

HENRY FORD WYANDOTTE HOSPITAL

HIGHLAND PARK RENAISSANCE ACADEMY

HOMELESS ACTION NETWORK DETROIT - HAND

HOTEL DIEU GRACE HOSPITAL

HURON VALLEY-SINAI HOSPITAL

INNER DOOR CENTER

INTEGRATIVE COUNSELING SERVICES

JEWISH FAMILY SERVICE

JEWISH SENIOR LIFE OF METROPOLITAN DETROIT

JOHN D. DINGELL VA MEDICAL CENTER

JUDSON CENTER AUTISM CONNECTIONS

JUDSON CENTER, INC.

JVS SENIOR ADULT SERVICES

KADIMA

LA CASA

LAKERIDGE VILLAGE

LIGHTHOUSE PATH TEEN MOTHERS PROGRAM

LINCOLN BEHAVIORAL SERVICES

LIVINGSTON FAMILY CENTER

LORING THERAPY

LUELLA HANNAN FOUNDATION

LUTHERAN SOCIAL SERVICES OF MICHIGAN

MACOMB COUNTY COMMUNITY SERVICE AGENCY

MACOMB FAMILY SERVICES

MACOMB INTERMEDIATE SCHOOL DISTRICT

MARINER'S INN

MATRIX HUMAN SERVICES

MCLAREN REGIONAL MEDICAL CENTER

MEDICAL SOCIAL WORK REHAB MANAGEMENT LLC

MELVINDALE-NORTH ALLEN PARK SCHOOL DISTRICT

MICHIGAN ROUNDTABLE FOR DIVERSITY

MONROE CO. INTERMEDIATE SCHOOL DISTRICT

NATIONAL COUNCIL OF ALCOHOLISM AND DRUG DEPENDENCE

NATIONAL KIDNEY FOUNDATION OF MICHIGAN

NEIGHBORHOOD SERVICE ORGANIZATION

NEW CENTER COMMUNITY MENTAL HEALTH SERVICES

NEW HAVEN COMMUNITY SCHOOLS

NEW FRONTIER COUNSELING SERVICES

NORTHEAST GUIDANCE CENTER

OAKLAND COUNTY CHILDREN'S VILLAGE

OAKLAND FAMILY SERVICES

OAKLAND LIVINGSTON HUMAN SERVICE AGENCY

OAKWOOD HOSPITAL

OAKWOOD SOUTHSHORE MEDICAL CENTER

ODYESSY HOUSE

ORCHARDS CHILDREN'S SERVICES

OZONE HOUSE

PONTIAC SCHOOL DISTRICT

PORT HURON HOSPITAL

POSITIVE IMAGES

PROVIDENCE CANCER INSTITUTE

REDFORD UNION SCHOOLS

RICHMOND COMMUNITY SCHOOLS

RUTH ELLIS CENTER

SACRED HEART REHABILITATION

SAGINAW CHIPPEWA TRIBE

SAGINAW COUNTY CMH

SAGINAW PSYCHOLOGICAL SERVICES

SANILAC COUNTY INTERMEDIATE SCHOOL DISTRICT

SERVICES FOR OLDER CITIZENS

SHAR, INC.

SINAI-GRACE HOSPITAL

SOS COMMUNITY SERVICES

SOUTH OAKLAND CITIZENS FOR THE HOMELESS

SOUTHWEST COUNSELING SOLUTIONS

SPAULDING FOR CHILDREN

SPECTRUM CHILD AND FAMILY SERVICES

ST. CLAIR COUNTY COMMUNITY MENTAL HEALTH AUTHORITY

ST. JOHN COMMUNITY HEALTH

ST. JOHN MACOMB OAKLAND HOSPITAL

ST. JOSEPH MERCY OAKLAND HOSPITAL

ST. JOHN PROVIDENCE HOSPITAL

STARFISH FAMILY SERVICES

STARR COMMONWEALTH

STATE COURT ADMINISTRATIVE OFFICE

TAYLOR SCHOOL DISTRICT

TEAM MENTAL HEALTH SERVICES

TEEN HEALTH CENTRE

THIRD JUDICIAL CIRCUIT COURT

TRAINING AND TREATMENT INNOVATIONS, INC.

TRANSPORTATION RIDERS UNITED, INC.

TROY SCHOOL DISTRICT

TURNING POINT INC.

TUSCOLA INTERMEDIATE SCHOOL DISTRICT

UNITED WAY FOR SOUTHEASTERN MICHIGAN

UNITED WAY/CENTRAIDE WINDSOR - ESSEX COUNTY

UNIVERSITY PSYCHIATRIC CENTERS

URBAN NEIGHBORHOOD INITIATIVES

UTICA COMMUNITY SCHOOLS

VAN DYKE PUBLIC SCHOOLS

VAN ELSLANDER CANCER CENTER

VICTIM'S ASSISTANCE CENTER

VISTA MARIA

WARREN WOODS PUBLIC SCHOOLS

WASHTENAW COUNTY C.S.T.S.

WASHTENAW COUNTY SHERIFF'S OFFICE

WASHTENAW LITERACY

WATERFORD SCHOOL DISTRICT

WAYNE CENTER

WAYNE COUNTY PROSECUTOR'S OFFICE

WAYNE METRO COMMUNITY ACTION AGENCY

WAYNE-WESTLAND COMMUNITY SCHOOL DISTRICT

WHALEY CHILDREN'S CENTER

WHOLISTIC LIVING COMMUNITY DEVELOPMENT

WILLIAM BEAUMONT HOSPITAL

WINDSOR ESSEX CHILDREN'S AID SOCIETY

WOLVERINE HUMAN SERVICES

WOMEN'S CENTER OF SOUTHEASTERN MICHIGAN

WSU -CENTER FOR LATINO AND LATIN AMERICAN STUDIES

WSU - DMC HIV/AIDS PROGRAM

WSU - FOSTER CARE AND HIGHER EDUCATION TRANSITION TO INDEPENDENCE PROGRAM

WSU - LEGAL ADVOCACY FOR PEOPLE WITH CANCER CLINIC

YMCA OF METRO DETROIT

YWCA INTERIM HOUSE

School of Social Work Faculty

ALLEN, J. LLOYD: Ph.D., University of Georgia; M.S.W., Florida International University; Assistant Professor

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BEVERLY, CREIGS C.: Ph.D., University of Wisconsin; M.S.W., Atlanta University; B.A., Morehouse College; Professor Emeritus

BOWERS, CASSANDRA: Ph.D., M.A., Wayne State University; B.A., Johnson C. Smith University; Clinical Assistant Professor

BRANDELL, JERROLD: Ph.D., University of Chicago; M.S.W., University of Wisconsin; B.A., University of Illinois; Distinguished Professor

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DAYTON, CAROLYN: Ph.D., Michigan State University; M.S.W., University of Michigan; B.A., Kalamazoo College; Associate Professor

ERNST, JOY S.: Ph.D., University of Maryland; M.S.W., Rutgers University; B.A., University of Chicago; Associate Professor

GOLDBERG, THEODORE: Ed.D., M.S.W., B.A., Wayne State University; Associate Professor Emeritus

GONZALES-PRENDES, ANTONIO: Ph.D., M.S.W., Wayne State University; B.S., Spring Hill College; Associate Professor

HARTMAN, CARL: M.S.W., Columbia University; M.S., B.S., City College of New York; Associate Professor Emeritus

HONG, JUN SUNG: Ph.D., University of Illinois at Urbana-Champaign; M.S.W., University of Michigan; M.A., University of Washington; B.A., University of California at Irvine; Assistant Professor

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KERNSMITH, POCO D.: Ph.D., University of California, Los Angeles; M.S.W., University of Michigan; B.A., University of California, Santa Barbara; Associate Professor

KEYS, FAYETTA: M.J., D.L., Widener University; M.S.W., University of Pennsylvania; M.L.S., University of Pittsburgh; B.A., Howard University; Clinical Assistant Professor

NAJOR-DURACK, ANWAR: Ph.D., Ed.S., M.S.W., B.S., Wayne State University; Clinical Assistant Professor

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SMITH, RICHARD: Ph.D., University of California-Berkeley; M.F.A., Western Michigan University; M.S.W., B.A., University of Michigan; Associate Professor

SMITH-DARDEN, JOANNE: Ph.D., M.S.W., M.S., University of Michigan; M.H.S., Governors State University; B.S., University of Oregon; Associate Professor (Research)

SOBECK, JOANNE L.: Ph.D., Wayne State University; M.S.W., Western Michigan University; B.S.W., Northern Michigan University; Associate Professor and Associate Dean for Research

SPENCER, MAVIS: M.S.W., Wayne State University; B.A., University of Detroit; Associate Professor Emeritus

THOMAS, SHIRLEY A.: Ph.D., University of Michigan; M.S.W., University of Denver; B.A., Adams State College; Clinical Assistant Professor

VROOM, PHYLLIS I.: Ph.D., University of Michigan; M.S.W., B.A., Wayne State University; Associate Professor Emeritus

WEISZ, ARLENE A.: Ph.D., M.S.W., University of Illinois at Chicago; B.A., University of Michigan; Professor

ADDITIONAL ACADEMIC PROGRAMS

Air Force (ROTC)

The Air Force Officer Education Program at the University of Michigan provides Wayne State University students the opportunity to earn a commission as a second lieutenant in the U.S. Air Force through the Air Force Reserve Officer Training Corps (AFROTC). Three- and four-year programs are offered. All AFROTC classes are conducted on the University of Michigan campus, Ann Arbor, MI; registration is managed by AFROTC. Interested students should contact AFROTC at 734-764-2403 or visit Room 154 at North Hall on the Ann Arbor campus. Students who enroll as cadets in the Air Force Officer Education Program, successfully complete the program, and receive a university degree are commissioned as second lieutenants in the United States Air Force.

Admission to introductory-level courses in this program is open to anyone, but admission to junior-level standing is open only to students having matriculate status in a four-year degree program at one of the resident sponsoring institutions.

Career Opportunities: Men and women can serve in a wide range of flying duties as aircrew members or in many technical fields as well as in numerous other non-technical specialties. Advanced education or technical training for these career areas may be obtained on active duty at Air Force expense.

Three- and Four-Year Program: The four-year program consists of eight terms (sixteen credits) of course work. The first four terms (freshman and sophomore years) comprise the General Military Course (GMC). During the summer following this sequence each student is required to attend a four-week summer field training session. After completing field training, students enroll in the last four terms (junior and senior years) of AFROTC called the Professional Officer Course (POC). Questions about the three-year program should be directed to the AFROTC at 734-764-2403.

Financial Benefits and Scholarships: All students enrolled in the POC, whether or not on scholarship, receive a monthly stipend during the academic school years. Uniforms, AFROTC books, and equipment are furnished free of charge. Pay and travel allowance are provided to attend field training. AFROTC provides scholarships on a competitive basis for periods of two and three and one-half years. These scholarships provide tuition, laboratory fees, a book allowance, and the monthly stipend. Room and board are not furnished.

Obligation to the Air Force: After graduation and commissioning, graduates are called to active duty in the Air Force. The standard period of service is four years for non-aircrew members, six years for navigators, and ten years for pilots. Obligations for aircrew members begin following graduation from aircrew training. A contractual obligation is incurred for non-scholarship students when they enter the POC. Scholarship students incur an obligation in their sophomore year.

Course of Study: Students enroll in one AFROTC course (AERO) during each term of participation in the program. In addition to the lecture, there is a mandatory two-hour Leadership Laboratory during each of the eight terms, for those students who are eligible for the commissioning program.

Military Science (ROTC)

The College of Engineering currently sponsors the Army Reserve Officers Training Corps (AROTC) and provides Wayne State University students with an Officer Education Program through a partnership agreement with the University of Michigan. The Officer Education Program allows qualified applicants to receive commissions as Second Lieutenants in the United States Army. Other interested students throughout the University may select military science courses, offered as Basic Engineering credits, for elective credit without participating in leadership training or incurring any military obligation. Army ROTC offers both a four-year and a two-year program. The four-year program consists of a two-year basic course, a two-year advanced course, and a four-week summer camp known as the Leadership Development and Assessment Course (LDAC), normally attended between the junior and senior years at Joint Base Lewis-McChord, Washington. Students having prior ROTC, including Junior ROTC (JROTC), or prior military service may be given placement credit for part or all of the basic course at the Professor of Military Science's approval. The two-year program is by application only and consists of a four-week Leadership Training Course (LTC) in Fort Knox, Kentucky, a two-year advanced course, and LDAC. All students with a minimum of two years of school remaining (graduate or undergraduate) are eligible. Students must notify the department prior to February 15 of their sophomore year if they are interested in this program. ROTC cadets are eligible for four-, three-, and two-year scholarships which can be used to pay either tuition and fees, or room and board, as well as money for books. In addition, the advanced course students and all scholarship students receive a tax-free subsistence allowance during the school year. ROTC books and uniforms are furnished at no cost to students. Cadets who maintain high academic, fitness, and leadership standards are eligible to apply for Regular Army Commissions. Interested students should visit the Wayne State University Army ROTC program (http://omvae.wayne.edu/rotc) website.

Basic Engineering ROTC Courses

BE 1101 Introduction to Officership Cr. 1
Classroom introduction to leadership, and the experiential examination of leadership, followership, decision-making, and group accomplishment of tasks. Offered Every Other Year.

BE 1102 Introduction to Leadership Cr. 1
Continuation of B E 1101; focus on communications, leadership, and problem-solving. The light infantry platoon and the troop leading process. Offered Every Other Year.
Prerequisite: BE 1101 with a minimum grade of C-

BE 2201 Innovative Tactical Leadership Cr. 1
Military organizational leadership with focus on leadership development and interpersonal group dynamics. Offered Every Other Year.
Prerequisite: BE 1102 with a minimum grade of C-

BE 2202 Leadership in Changing Environments Cr. 2
Challenges of leading in complex contemporary operational environments. Cross-cultural challenges of leadership applied to practical Army leadership tasks and situations. Offered Every Other Year.
Prerequisite: BE 1102 with a minimum grade of C-

BE 3301 Leading Small Organizations I Cr. 2
Leadership development and interpersonal and group dynamics. Methods of visualizing, planning and leading organizations to achieve set goals. Offered Every Other Year.

BE 3302 Leading Small Organizations II Cr. 2
Offered Every Other Year.
Prerequisite: BE 3301 with a minimum grade of C-

BE 4401 Leadership and Management Cr. 3
Multiple styles and theories of leadership; ethical decision making, especially as relating to changing organizational and individual behavior; accomplishing goals in resource-constrained environments. Offered Every Other Year.
Prerequisite: BE 3302 with a minimum grade of D-

BE 4402 Military Professionalism and Professional Ethics Cr. 3
Evaluation and assessment of needs of subordinate units and individuals; near-term and short-term plans to address these needs. Analysis of a historical battle as well as analysis of moral and leadership dilemmas in history. Offered Every Other Year.
Prerequisite: BE 4401 with a minimum grade of C-

ACC - ACCOUNTING

ACC 3010 Introduction to Financial Accounting Cr. 3
Theory and practical applications of financial accounting principles; preparation and evaluation of financial statements and the items that make up these statements using real-world examples. Use of the language of business to communicate financial information about business enterprises. Offered Every Term.
Prerequisites: BA 2300 with a minimum grade of C

ACC 3020 Introduction to Managerial Accounting Cr. 3
Basic terms and concepts used in managerial accounting: cost behavior; cost-volume profit analysis; business planning and accounting controls; and how accounting information in managerial decision making. Offered Every Term.
Prerequisites: ACC 3010 with a minimum grade of C and ECO 2010 with a minimum grade of C and BA 2300 with a minimum grade of C

ACC 4500 Business Co-op Assignment Cr. 0
Must be elected by Professional Development Co-operative Program students during work semester. Offered for S and U grades only. No credit toward degree. Opportunity to put theory into practice on the job. Students will normally be assigned to cooperating business organizations for internship periods of one semester. Offered Every Term.
Restriction(s): Enrollment limited to students in the School of Business.
Equivalent: FIN 4500, MGT 4500, MKT 4500

ACC 5100 Intermediate Financial Accounting I Cr. 3
Accounting principles for preparing complete set of financial statements; how accounting meets the needs of various external users. Theories and practices of external financing of external financial reporting for organizations. Valuation and accounting for assets: cash, receivables, and inventory. Offered for undergraduate credit only. Offered Every Term.
Prerequisites: ACC 3010 with a minimum grade of C and ACC 3020 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

ACC 5110 Intermediate Financial Accounting II Cr. 3
Continuation of ACC 5100. Theories and practices underlying external financial reporting for organizations. Valuation of and accounting for specific items on the balance sheet, including property, plant and equipment, intangible assets, current and long-term liabilities, stockholders' equity, investments, income measurement concepts and issues. Offered for undergraduate credit only. Offered Every Term.
Prerequisites: ACC 5100 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

ACC 5115 Intermediate Financial Accounting III Cr. 3
Continuation of ACC 5110. Complex financial reporting topics, such as securities, earnings per share, income taxes, pensions, leases, changes and errors, disclosure issues. Cases used to integrate concepts studied in managerial, systems, and tax accounting courses in this capstone course. Offered for undergraduate credit only. Offered Every Term.
Prerequisites: ACC 5110 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

ACC 5120 Advanced Accounting Cr. 3
Theories and practical applications of financial accounting: as learned in intermediate accounting courses; focus on accounting of consolidation and combination of business entities; accounting for foreign currency transactions; and interim and segment reporting. Offered for undergraduate credit only. Offered Winter.
Prerequisites: ACC 5110 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

ACC 5130 Accounting Systems Design and Control Cr. 3
Implementation of accounting systems in a computer-intensive business environment; methods for developing and documenting Accounting Information Systems (AIS); hands-on use of enterprise resource planning software package for accounting functions. Offered for undergraduate credit only. Offered Every Term.
Prerequisites: ACC 5100 with a minimum grade of C and ISM 3630 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

ACC 5160 Managerial Accounting Cr. 3
Focus on management accountant as integral part of the management team. Analyzing, managing, and accounting for costs; relevance of cost management in manufacturing firms and other types of organization; solving homework problems by application of concepts covered in textbook and lectures. Offered for undergraduate credit only. Offered Every Term.
Prerequisites: ACC 3020 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

ACC 5170 Introduction to Taxation: Individuals Cr. 3
Introduction to taxation, tax research, and tax planning. Fundamental elements of individual taxation; how individuals and business owners benefit from an understanding of tax law. Offered for undergraduate credit only. Offered Every Term.
Prerequisites: ACC 3010 with a minimum grade of C and ACC 3020 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

ACC 5180 Governmental and Not-for-Profit Accounting Cr. 3
Theory and practical applications of accounting for governmental and not-for-profit organizations, and how they differ from for-profit entities. Technical accounting issues and management and regulatory issues for both state and local governments and for other governmental and non-governmental not-for-profit entities. Course is preparation for governmental and not-for-profit portion of the CPA examination. Offered for undergraduate credit only. Offered Every Term.
Prerequisites: ACC 5110 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

ACC 5200 ERP Systems: Concepts and Practice Cr. 3
Enterprise Planning (ERP) systems comprise the primary software packages for the accounting, operational, and managerial activities of an organization. Role and function of ERP systems within organizations; analysis of major business processes and their implementation in ERP software; hands-on use of ERP packages for transaction processing and decision support; use of ERP for customer relationship management, supply chain management, and electronic commerce. Offered for undergraduate credit only. Offered Winter.
Prerequisites: ACC 3010 with a minimum grade of C and ACC 3020 with a minimum grade of C and ISM 3630 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.
Course Material Fees: $117
Equivalent: ISM 5200

ACC 5210 Blockchain Fundamentals for Accounting and Business Cr. 3
Introduces blockchain, which is a public, transparent, secure, immutable and distributed ledger. Blockchains can be used to record and transfer any digital asset, not just currency. Progressing from a detailed study of how blockchain works in Bitcoin; this course also discusses alternative blockchain platforms; potential uses of blockchain in accounting, other areas of business, and society; and this technology's potential impact on accounting systems, business transactions, financial services, government, and banking management. This course is taught completely online. Offered Spring/Summer.
Prerequisite: ACC 3010 with a minimum grade of C and ACC 3020 with a minimum grade of C
Equivalent: ISM 5210

ACC 5250 Introduction to Internal Auditing Cr. 3
Theory of internal auditing and how it relates to the CPA audit and the audit committee. Offered for undergraduate credit only. Offered Winter.
Prerequisites: ACC 3010 with a minimum grade of C and ACC 3020 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students.

ACC 5270 Introduction to Taxation: Business Entities Cr. 3
Builds on basic U.S. tax concepts learned in ACC 5170. Taxation of corporations, S corporations, partnerships, estates and trusts. Accounting for income taxes on financial statements, taxation of corporate reorganizations and liquidations, basic multi-state and multi-national taxation principles, and transfer taxes and wealth planning. Offered for undergraduate credit only. Offered Fall, Winter.
Prerequisites: ACC 5170 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

ACC 5890 Internship in Accounting or Tax Practice Cr. 3
Student performs assigned tasks and responsibilities in a professional manner under supervision of host-employer for minimum 160 hours during the semester, abiding by the rules and regulations established by the employer and expected of all employees; student must satisfactorily complete all course requirements outlined in the internship program for the School of Business Administration. Offered for undergraduate credit only. Offered Every Term.
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

ACC 5990 Directed Study in Accounting Cr. 1-3
Research conducted under supervision of full-time faculty member in an area of special interest to student and faculty member. Offered for undergraduate credit only. Offered Every Term.
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.
Repeatable for 6 Credits

ACC 5996 Auditing, Assurance and Attestation Cr. 3
Principles and procedures used by public accountants in examination of financial statements of companies and other organizations; issuing an independent opinion; professional standards and responsibilities of the certified public accountant. Offered Every Term.
Prerequisites: May be taken concurrently: ACC 5115 with a minimum grade of C and BA 3400 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

ACC 7040 Intermediate Financial Accounting I Cr. 3
Study of accounting theory and financial statement presentation, underlying assets and income determination at an intermediate level of analysis. Topics include cash and receivables, marketable securities, inventories, property and intangibles. No credit after ACC 5100 and ACC 5110. Offered Fall, Spring/Summer.
Prerequisites: BA 6000 with a minimum grade of C and BA 7000 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

ACC 7050 Intermediate Financial Accounting II Cr. 3
Continuation of accounting theory and financial statement presentation, underlying liabilities, and shareholder equity at an intermediate level of analysis. Topics include investments, accounting for leases, pensions, income taxes, disclosures and cash flow. Offered Fall, Winter.
Prerequisites: ACC 7040 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

ACC 7115 Financial Statement Analysis Cr. 3
Development of ability to extract and interpret information reported in financial statements in order to evaluate the operating performance and financial status of a firm. Offered Winter.
Prerequisites: ACC 7050 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Business.

ACC 7120 Introduction to Taxation: Individuals Cr. 3
Introduction to taxation, tax research, and tax planning. Fundamental elements of individual taxation; how individuals and business owners benefit from an understanding of tax law. No credit after ACC 5170 or undergrad. equiv. Offered Fall, Spring/Summer.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Business.

ACC 7122 Advanced Accounting I Cr. 3
Theory and practical applications of accounting for consolidation and combination of business entities and accounting for foreign currency transactions and interim and segment reporting. No credit after ACC 5120 or other undergrad. equiv. course. Offered Fall.
Prerequisites: ACC 7050 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

ACC 7130 Intermediate Managerial Accounting Cr. 3
Building on managerial accounting skills mastered in B A 7000, this course examines accounting and control issues and the use of information in the decision-making process from a managerial perspective, through the study of cases. No credit after ACC 5160 or undergrad. equiv. Offered Fall, Winter.
Prerequisites: BA 7000 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

ACC 7145 Accounting Systems: Design and Controls Cr. 3
Implementation of accounting systems in the computer-intensive business environment; methods for developing and documenting Accounting Information Systems (AIS); evaluation of controls; work with accounting software package. No credit after ACC 5130 or equiv. Offered Fall.
Prerequisites: ACC 7040 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

ACC 7148 ERP Systems and Business Integration Cr. 3
Enterprise Planning (ERP) systems are the primary software packages for accounting, operational, and managerial activities of organizations. How ERP systems integrate and coordinate business processes and the management of the organization. Extensive hands-on use of popular software packages for key business activities such as sales, procurement, and production. Offered Yearly.
Prerequisites: BA 7000 with a minimum grade of C and ISM 7500 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $117

ACC 7155 Forensic Accounting Cr. 3
Accounting and legal fundamentals of forensic accounting. Topics include tax and financial statement fraud, information security, and forensic accounting applications in such cases as bankruptcy, identity theft, and organized crime and terrorism investigations. Offered Spring/Summer.
Prerequisites: BA 7000 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

ACC 7165 Internal Audit I Cr. 3
Theory of internal audit; the context within which internal auditing functions; its relation to the external audit and the audit committee. Offered Fall, Winter.
Prerequisites: BA 7000 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

ACC 7170 International Accounting Cr. 3
Issues in international business environment: currency translations; consolidated statements for multinational corporations, inflation accounting; other issues. Offered Fall.
Prerequisites: ACC 7050 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

ACC 7180 Auditing Cr. 3
Principles and procedures of internal and external auditing; statistical sampling and other modern auditing techniques; professional standards and responsibilities of the auditor. Offered Fall, Winter.
Prerequisites: ACC 7050 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

ACC 7188 Governmental and Not-for-Profit Accounting Cr. 3
Theory and practical applications of accounting for governmental and not-for-profit organizations, and how they differ from for-profit entities. Technical accounting issues and management and regulatory issues for both state and local governments and for other governmental and non-governmental not-for-profit entities. No credit after ACC 5180 or undergrad equiv. Offered Every Term.
Prerequisites: ACC 7050 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

ACC 7190 Advanced Auditing Cr. 3
Advanced principles and procedures to perform financial audits; case studies of emerging auditing techniques and methods to detect fraud; application of advanced statistical sampling techniques; analysis of auditor's role in society. Offered Winter.
Prerequisites: ACC 7180 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

ACC 7280 Accounting Data Analytics Cr. 3
Introduces concepts, techniques, and software applications used to analyze accounting and related data to support financial decision-making and planning. These data are generated both within and outside the organization. Offered Fall, Winter.
Prerequisites: BA 7000 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

ACC 7290 Blockchain: An Accounting and Business Perspective Cr. 3
Introduces blockchain: a public, transparent, secure, immutable, and distributed ledger. Blockchains can be used to record and transfer any digital asset, not just currency. The course covers the workings, applications, and potential impact of this revolutionary technology. Offered Fall.
Prerequisites: BA 7000 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

ACC 7300 Accounting and Tax Research and Professional Communications Cr. 3
Methodology of accounting and tax research, including computer-assisted research and the communication of argument and conclusions. Sources and roles of legislative, executive, judicial and professional bodies in creating, interpreting and enforcing policies and practices. Commonly-used research databases studied through cases. Offered Every Term.
Prerequisites: May be taken concurrently: ACC 7120 with a minimum grade of C and BA 7000 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

ACC 7310 Business and Professional Ethics for Managers and Accountants Cr. 3
Laws, regulations and professional codes of conduct as reflection of expectations of corporate stakeholders regarding the ethics of accountants and managers. Significance of integrity, independence, and reputation in light of these rules. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.

ACC 7320 Introduction to Taxation: Business Entities Cr. 3
Builds on basic U.S. tax concepts learned in ACC 5170/ACC 7120. Taxation of corporations, S corporations, partnerships, estates and trusts. Accounting for income taxes on financial statements, taxation of corporate reorganizations and liquidations, basic multi-state and multi-national taxation principles, and transfer taxes and wealth planning. Offered Fall, Spring/Summer.
Prerequisites: ACC 7120 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Business.

ACC 7325 Advanced Tax Research and IRS Procedures Cr. 3
Builds on research skills developed in ACC 7300 focusing on tax research methodology, writing and citation; role of legal authorities in taxation; IRS practices and procedures. Offered Winter.
Prerequisites: ACC 7300 with a minimum grade of C and ACC 7320 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

ACC 7335 Taxation of Corporations and Shareholders Cr. 3
Advanced taxation issues related to consolidated tax returns; corporate acquisitions, mergers, divestitures, and reorganizations; survival of tax attributes; accounting for uncertainty in income taxes; other advanced tax topics. Offered Fall.
Prerequisites: ACC 7300 with a minimum grade of C and ACC 7320 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

ACC 7340 Taxation of Pass-Through Entities Cr. 3
Tax rules governing formation, operation, and dissolution of partnerships, S corporations, and limited liability companies; aggregate and entity theories; distributions, basis adjustments, dispositions, and other related tax issues. Offered Fall.
Prerequisites: ACC 7320 with a minimum grade of C and ACC 7335 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

ACC 7400 Taxation of International Business and Multinational Transactions Cr. 3
Taxation of U.S. persons investing or doing business outside the United States. Foreign tax credit, sourcing rules, controlled foreign corporation and related tax issues, transfer pricing issues, and overview of tax issues related to non-U.S. persons doing business in the United States. Offered Fall.
Prerequisites: ACC 7300 with a minimum grade of C and ACC 7320 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

ACC 7410 Tax Accounting Methods and Accounting for Income Taxes Cr. 3
Tax accounting issues faced by business entities and their tax advisers, including tax accounting methods and periods, inventory methods, tax accrual workpapers, tax uncertainties and deferred taxes. Offered Yearly.
Prerequisites: ACC 7050 with a minimum grade of C and ACC 7120 with a minimum grade of C and ACC 7150 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

ACC 7420 Taxation by State and Local Jurisdictions Cr. 3
Survey and examination of state, local, and some international income, franchise, property, sales, and use taxes and their impact on entrepreneurs. Emphasis on North American jurisdictions. Offered Intermittently.
Prerequisites: ACC 7120 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

ACC 7450 Taxes and Business Strategy Cr. 3
Effect of taxation on business decisions such as choice of form of organization, international operations, employee and executive compensation strategies, business mergers, acquisitions and divestitures. Business decisions examined by studying tax, accounting, and non-tax considerations from a management perspective. Offered Winter.
Prerequisites: ACC 7300 with a minimum grade of C and ACC 7320 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

ACC 7990 Internship in Accounting or Tax Practice Cr. 1-3
Application and assessment of concepts developed in studies through meaningful real-world experience. Student must obtain internship position and complete internship application form before registering. Student performs assigned tasks in professional manner under supervision of host-employer for minimum 160 hours during semester; abides by rules and regulations established by employer and expected of all employees; and must complete all course requirements outlined by the School for the internship program. Offered Every Term.
Prerequisites: ACC 7040 with a minimum grade of C and ACC 7050 with a minimum grade of C and BA 7000 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the MS in Accounting or MS in Taxation programs.
Repeatable for 3 Credits

ACC 7995 Directed Study in Accounting Cr. 1-3
Opportunity to conduct research under the supervision of a member of the graduate faculty in areas of special interest to student and faculty member. Offered Every Term.
Prerequisites: ACC 7040 with a minimum grade of C and ACC 7050 with a minimum grade of C and BA 7000 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 3 Credits

ACC 7998 Seminar in Tax and Accounting Policy Cr. 3
Seminar topics include history of accounting and tax policy in the U.S., establishment of accounting and tax rules and standards, professional responsibilities of accounting and tax professionals; relationship and application to recent and current events. Offered Every Term.
Prerequisites: ACC 7050 with a minimum grade of C and ACC 7120 with a minimum grade of C and May be taken concurrently: ACC 7300 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Law School or School of Business; enrollment limited to students in a MS in Accounting or MS in Taxation degrees.

ACO - ART: CORE

ACO 1200 Surface Studio Cr. 3
Core studio for visual communication in a spectrum of two-dimensional media and color theory. Explorations include elements and principles of design, basic digital technique, basic traditional material handling, creative thinking, critical discussion and problem solving. Offered Every Term.
Restriction(s): Enrollment is limited to Undergraduate level students.
Course Material Fees: $105

ACO 1230 Space Studio Cr. 3
Core studio for visual communication in a spectrum of three-dimensional media and composition in the built environment. Explorations include elements and principles of design, basic digital techniques, material handling, shop experience, and creative problem solving. Offered Every Term.
Restriction(s): Enrollment is limited to Undergraduate level students.
Course Material Fees: $140

ACO 1270 Time Studio Cr. 3
Core studio for visual communication in time-based media composition including elements and principles of design, basic time-based methods for audio/video production, performance, social practice, creative thinking, and critical discussion and problem solving. Offered Every Term.
Restriction(s): Enrollment is limited to Undergraduate level students.
Course Material Fees: $150

ACR - ART: CERAMICS

ACR 2550 Ceramics and Pottery Design I Cr. 3
Introduction to beginning clay forming, glazing and firing. Primarily for non-art and beginning art majors. Offered Every Term.
Course Material Fees: $75

ACR 2560 Ceramics and Pottery Design II Cr. 3
Continuation of ACR 2550. Development of personal approach is encouraged. Offered Every Term.
Prerequisites: ACR 2550 with a minimum grade of C
Course Material Fees: $75

ACR 3550 Beginning Ceramics Cr. 3
Basic techniques of wheel throwing, hand building, glazing and firing. Lectures, demonstrations, critiques. Offered Every Term.
Prerequisites: ACO 1200 and ADR 1060
Restriction(s): Enrollment is limited to students in the Department of Art and Art History; enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts, Master of Arts or Master of Fine Arts degrees.
Course Material Fees: $75

ACR 4000 Ceramics: Wheel Throwing Cr. 3
Development of personal, technical and aesthetic skills in using potter's wheel as tool to create utilitarian and non-utilitarian objects. Group and individual critiques. Offered Yearly.
Prerequisites: ACR 2550 and ACR 3550
Restriction(s): Enrollment is limited to students in the Department of Art and Art History; enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts, Master of Arts or Master of Fine Arts degrees.
Course Material Fees: $90
Repeatable for 12 Credits

ACR 4001 Handbuilding Cr. 3
Intermediate and advanced handbuilding techniques including coiling, extrusions, mold and slab construction. Surfacing, glazing and firing processes as they apply to completing the objects. Offered Yearly.
Prerequisites: ACR 2550 and ACR 3550
Restriction(s): Enrollment is limited to students in the Department of Art and Art History; enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts, Master of Arts or Master of Fine Arts degrees.
Course Material Fees: $90
Repeatable for 12 Credits

ACR 4550 Intermediate Ceramics Cr. 3
Advanced building techniques; glaze and clay body calculation, mold-making and aesthetic evaluation. Offered Every Term.
Prerequisites: ACR 3550
Restriction(s): Enrollment is limited to students in the Department of Art and Art History; enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts, Master of Arts or Master of Fine Arts degrees.
Course Material Fees: $90

ACR 5550 Advanced Ceramics Cr. 3
Advanced hand building and wheel throwing demonstrations. Lectures on historical and contemporary issues. Emphasis on personal growth and development. Offered Every Term.
Prerequisites: ACR 4550 with a minimum grade of D-
Restriction(s): Enrollment is limited to students in the Department of Art and Art History; enrollment limited to students in a Bachelor of Fine Arts or Master of Fine Arts degrees.
Course Material Fees: $90
Repeatable for 12 Credits

ACR 5880 Directed Projects: Ceramics Cr. 3-6
Independent projects and study in consultation with faculty. Offered Fall, Winter.
Restriction(s): Enrollment is limited to students in the Department of Art and Art History; enrollment limited to students in a Bachelor of Fine Arts or Master of Fine Arts degrees.
Course Material Fees: $90

ACR 7550 Graduate Problems in Ceramics Cr. 3
Individual problems in advanced ceramics. Offered Every Term.
Prerequisites: ACR 5550
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students in the Department of Art and Art History; enrollment limited to students in a Master of Arts or Master of Fine Arts degrees.
Course Material Fees: $100
Repeatable for 24 Credits

ACR 8880 MFA Studio: Ceramics Cr. 3-9
Extended problems in ceramics; individual research with eighteen to twenty-seven hours of laboratory per week. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students in the Department of Art and Art History; enrollment limited to students in a Master of Fine Arts degree.
Course Material Fees: $150
Repeatable for 36 Credits

ACS - ART: SPECIAL SEMINARS

ACS 3997 Sophomore Seminar in the Visual Arts Cr. 3
Introduction to a variety of art and design disciplines: developing basic critiquing skills, learning how to document and present art design projects, and gaining a general knowledge of the contemporary art world. Offered for undergraduate credit only. Offered Every Other Year.
Prerequisites: ACO 1200 and ADR 1060
Restriction(s): Enrollment is limited to Undergraduate level students.

ACS 5200 Art Gallery Management Cr. 3
Offers a larger sense of the profession gained through readings, opportunities to network within and outside Wayne State University's art galleries, and hands-on experience. The following operational fundamentals are thoroughly examined: exhibition and season design, marketing, budgeting, and standard facility requirements. Offered Winter.
Repeatable for 6 Credits

ACS 5210 Art Gallery Internship Cr. 1-3
Provides students with opportunities to serve as interns at galleries and museums internal and external to the department. Students update the instructor with documentation of significant projects on which they have worked. Offered Every Term.
Repeatable for 6 Credits

ACS 5550 Special Topics Cr. 3
Students examine specific issues related to one or more of the studio disciplines. Offered for undergraduate credit only. Offered Intermittently.
Restriction(s): Enrollment is limited to Undergraduate level students.
Course Material Fees: $30
Repeatable for 6 Credits

ACS 5650 Museum Culture: Histories, Critiques, Practices Cr. 3
The art museum as a subject of cultural history and criticism, social policy, and art. Includes panel discussions among museum professionals and opinion leaders, designed to explore current issues. Offered Yearly.

ACS 5996 Honors Project Cr. 3
Students complete a substantial creative project reflecting conceptual issues, determined by the student in collaboration with his/her professor. Offered for undergraduate credit only. Offered Every Term.
Restriction(s): Enrollment is limited to Undergraduate level students.

ACS 5997 Senior Seminar in the Visual Arts Cr. 3
Satisfies General Education Requirement: Writing Intensive Competency
Interdisciplinary seminar on contemporary issues in the visual arts including studio practices, history, and criticism. Satisfies the General Education Writing Intensive Course in the Major requirement. Offered for undergraduate credit only. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students with a class of Senior; enrollment is limited to students with a major in Art or Art Honors; enrollment limited to students in a Bachelor of Fine Arts degree.

ACS 7998 Master of Arts Seminar Cr. 2-3
Directed reading, research, bibliography. Offered fall semester only. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Art or Art Honors; enrollment limited to students in a Master of Arts degree.

ACS 7999 Master's Essay Direction Cr. 1-3
Offered Fall, Winter.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students with a class of Candidate Masters; enrollment is limited to students with a major in Art or Art Honors.

ACS 8997 Master of Fine Arts Seminar Cr. 3
Concepts of art; contemporary art problems. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Art; enrollment limited to students in a Master of Fine Arts degree.
Repeatable for 6 Credits

ACS 8999 Master's Thesis Research and Direction Cr. 1-8
Offered Fall, Winter.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students with a class of Candidate Masters; enrollment is limited to students with a major in Art History.
Repeatable for 8 Credits

ADA - ART: DIGITAL ART

ADA 2210 Introduction to Digital Practices Cr. 3
Introductory survey of digital methods of art production; digital painting and drawing, 3D modeling, and photo manipulation. Offered Fall, Winter.
Prerequisites: ACO 1200 with a minimum grade of D- or ACO 1230 with a minimum grade of D- or ACO 1270 with a minimum grade of D- or APH 2400 with a minimum grade of D-
Course Material Fees: $95

ADA 2220 Time-Based Media I: Video Art Cr. 3
Experimental digital video production techniques: complete workflow from camera to post production and DVD authoring. Technical tuition supplemented by readings, critiques, discussions and screenings of key examples of video art. Offered Winter.
Prerequisites: ACO 1200 with a minimum grade of D- or ACO 1230 with a minimum grade of D- or ACO 1270 with a minimum grade of D- or APH 2400 with a minimum grade of D-
Course Material Fees: $150

ADA 3220 Introduction to Interactivity in Graphic Arts Cr. 3
Exploration of a variety of art-making strategies that utilize digital technologies and interactive media; emphasis on computer-based and online art practices and web-oriented programming languages. Offered Yearly.
Prerequisites: ACO 1200 with a minimum grade of D- or ACO 1230 with a minimum grade of D- or ACO 1270 with a minimum grade of D- or APH 2400 with a minimum grade of D-
Course Material Fees: $145
Equivalent: AGD 3260

ADA 4220 Time-Based Media II: Experimental Animation Cr. 3
Strategies for creating animation-based artworks by combining traditional techniques with digital technologies. Technical tuition supplemented by readings, critiques, discussions and screenings of key examples of animation art. Offered Yearly.
Prerequisites: ACO 1200 with a minimum grade of D- or ACO 1230 with a minimum grade of D- or ACO 1270 with a minimum grade of D- or APH 2400 with a minimum grade of D-
Course Material Fees: $125

ADA 4230 Time-Based Media III: Experimental 3D Animation Cr. 3
3D modeling and animation techniques. Technical tuition supplemented by readings, critiques, discussions and screenings featuring various mainstream and experimental examples of 3D animation. Offered Winter.
Prerequisites: ACO 1200 with a minimum grade of D- or ACO 1230 with a minimum grade of D- or ACO 1270 with a minimum grade of D- or APH 2400 with a minimum grade of D-
Course Material Fees: $165
Repeatable for 6 Credits

ADA 4240 Advanced Interactivity: Experimental Video Games Cr. 3
Studio course focusing on video game creation from a fine arts perspective; emphasizing 2D and 3D experimental and unconventional approaches. Offered Winter.
Prerequisites: ADA 3220 or AGD 3260
Repeatable for 6 Credits

ADA 5830 Directed Projects in Digital Arts Cr. 1-3
Individual problems in electronic arts. Offered Fall, Winter.
Course Material Fees: $165
Repeatable for 6 Credits

ADA 6230 Advanced Projects in Digital Arts Cr. 3
Research- and project-oriented studio class for intermediate students. Discussion, critique, development and refinement of technical and conceptual approaches to the application of digital technologies within the fine arts. Offered Winter.
Course Material Fees: $165
Repeatable for 15 Credits

ADA 6250 Advanced Time-Based Media Cr. 3
Advanced projects in time-based media surveying the intersections of 3D Animation, 2D Animation, and video art. Offered Yearly.
Course Material Fees: $165
Repeatable for 9 Credits

ADA 6830 Special Topics in Digital Arts Cr. 3
In-depth specializations supplementing and building on digital arts courses. Topics may include: programming for artists; sound design and sonic arts. Offered Fall, Winter.
Repeatable for 12 Credits

ADN - ART: DESIGN

ADN 3100 Design Process Cr. 3
Intended for the student who is entering the design field and requires an understanding of brand identity development, design thinking, and product line development. Offered Every Term.
Repeatable for 6 Credits

ADN 6320 History of Modern Design I Cr. 3
Major design trends in America and Europe from mid-nineteenth century to World War I. Covers a broad spectrum of the applied arts. Offered Fall.
Restriction(s): Enrollment limited to students in the Fine, Performing & Comm. Arts; enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts or Master of Arts degrees.

ADN 6330 History of Modern Design II Cr. 3
Major design trends in America and Europe from end of World War I through 1950s. Covers a broad spectrum of the applied arts. Offered Winter.
Restriction(s): Enrollment limited to students in the Fine, Performing & Comm. Arts; enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts or Master of Arts degrees.

ADR - ART: DRAWING

ADR 1050 Drawing I Cr. 3
Introduction to basic drawing skills such as linear perspective, light and shadow, use of dry and wet media; emphasis on composition. Drawing primarily still life subjects. Offered Fall, Winter.
Course Material Fees: $30

ADR 1060 Drawing II Cr. 3
Further development of basic drawing skills and concepts. Continued exploration of media. Drawing based on observation and imagination. Offered Fall, Winter.
Prerequisites: ADR 1050
Course Material Fees: $30

ADR 2070 Beginning Life Drawing Cr. 3
Initial exploration of human figure using limited drawing media; essential aspects of the figure: proportion, gesture, composition. Offered Fall, Winter.
Prerequisites: ADR 1050
Course Material Fees: $90

ADR 2130 Introduction to Alternative Drawing Methods and Materials Cr. 3
Survey of contemporary and traditional materials and methods of paper making, paper casting, paper cutting and paper folding, as well as an introduction to book binding and altered books. Compositions based on observation and imagination. Offered Yearly.
Prerequisites: ACO 1200
Course Material Fees: $80
Repeatable for 6 Credits

ADR 3070 Intermediate Life Drawing Cr. 3
Continued systematic study of human figure using broad range of media. Offered Fall, Winter.
Prerequisites: ADR 2070
Course Material Fees: $90

ADR 5060 Advanced Concepts in Drawing and Painting Cr. 3-6
Emphasis on individual projects using any appropriate medium. Work is created independently (out of class) with scheduled critiques for faculty guidance; may include lectures, demonstrations, off-campus visits. Offered Yearly.
Prerequisites: ADR 3070 and APA 4000
Restriction(s): Enrollment is limited to students in the Department of Art and Art History; enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts, Master of Arts or Master of Fine Arts degrees.
Course Material Fees: $30
Repeatable for 6 Credits

ADR 5070 Advanced Life Drawing Cr. 3
Continued study of human figure based on observation. Composition. Expressive interpretation of the figure through broad range of media. Offered Fall, Winter.
Prerequisites: ADR 3070
Restriction(s): Enrollment is limited to students in the Department of Art and Art History; enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts, Master of Arts or Master of Fine Arts degrees.
Course Material Fees: $90
Repeatable for 6 Credits

ADR 5080 Landscape Drawing Cr. 3
Drawing or painting, as appropriate, outdoors at a variety of urban, suburban, and rural sites in the metropolitan Detroit area; students are expected to drive or carpool to locations within an hour of Detroit. Interpretation of landscape subjects through observation and imagination. Offered Spring/Summer.
Prerequisites: ADR 1050
Restriction(s): Enrollment is limited to students in the Department of Art and Art History.
Course Material Fees: $30
Equivalent: ADR 7080
Repeatable for 6 Credits

ADR 5090 Anatomy Cr. 3
Superficial human anatomy including effects of muscular and skeletal systems. Drawing from both models and skeletons, lectures, demonstrations. Offered Yearly.
Prerequisites: ADR 2070
Course Material Fees: $90

ADR 5100 Contexts of Studio Practice Cr. 3
Critical inquiry into art issues, past and present, and contemporary studio practices related to painting. Seminar based on visits to museums, galleries, private collections, artists' studios, and optional trips to major art centers such as New York and Chicago. Offered Yearly.
Restriction(s): Enrollment is limited to students in the Department of Art and Art History.
Equivalent: APA 5100
Repeatable for 6 Credits

ADR 5160 Advanced Alternative Drawing Methods and Materials Cr. 3
Survey of contemporary and traditional materials and methods of paper making, paper casting, paper cutting and paper folding, as well as an introduction to book binding and altered books. New techniques will be incorporated into a personal body of work. Offered Yearly.
Prerequisites: ACO 1200, ADR 1050, and ADR 1060
Course Material Fees: $80
Repeatable for 6 Credits

ADR 5800 Directed Projects: Drawing Cr. 3-6
Individual work supervised by faculty on arranged basis. Offered Fall, Winter.
Restriction(s): Enrollment is limited to students in the Department of Art and Art History; enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts, Master of Arts or Master of Fine Arts degrees.
Repeatable for 998.99 Credits

ADR 7060 Graduate Problems in Drawing and Painting Cr. 3-9
Emphasis on self-directed projects with advice from faculty. May include lectures, demonstrations, and visits to off-campus sites. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students in the Department of Art and Art History.
Course Material Fees: $30
Equivalent: ADR 5060
Repeatable for 24 Credits

ADR 7070 Graduate Life Drawing Cr. 3
Individual projects based upon study of the human figure. Broad range of media encouraged. Offered Fall, Winter.
Prerequisites: ADR 5070
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students in the Department of Art and Art History.
Course Material Fees: $90
Repeatable for 9 Credits

ADR 7080 Landscape Drawing Cr. 3
Drawing or painting, as appropriate, outdoors at a variety of urban, suburban and rural sites in the metropolitan Detroit area; students are expected to drive or carpool to locations within an hour of Detroit. Interpretation of landscape subjects through observation and imagination. Offered Spring/Summer.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students in the Department of Art and Art History.
Course Material Fees: $30
Equivalent: ADR 5080
Repeatable for 15 Credits

ADR 8800 MFA Studio: Drawing Cr. 3-9
Extended self-directed work in drawing (eighteen to twenty-seven hours per week). Consultation with appropriate graduate faculty on an arranged basis. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students in the Department of Art and Art History; enrollment limited to students in a Master of Fine Arts degree.
Repeatable for 36 Credits

ADX - ART AND DESIGN EXPOSURE

ADX 1020 Web Design and Interactive Art for Non-Art/Design Majors Cr. 3
Introductory survey of methods for the production of web-based art and interactive web content for students, who are not majoring in a program within the Department of Art and Art History. Offered Every Term.
Restriction(s): Enrollment is limited to students in the Department of Art and Art History.

ADX 1030 3D Modeling for Non-Art/Design Majors Cr. 3
Introductory survey of methods in 3D Modeling and digital manufacturing techniques for students, who are not majoring in a program within the Department of Art and Art History. Offered Every Term.
Restriction(s): Enrollment is limited to students in the Department of Art and Art History.

ADX 1060 Introduction to Jewelry and Metalsmithing for Non-majors Cr. 3
Introduces jewelry and metalsmithing skills and techniques as well as the history of jewelry and metalsmithing, and contemporary practices. The course is intended for those interested in learning how to create jewelry-metal works but are not majoring in a program within the Department of Art and Art History. Offered Every Other Year.
Restriction(s): Enrollment is limited to students in the Department of Art and Art History.
Course Material Fees: $75
Repeatable for 6 Credits

ADX 1100 Creative Inquiry Cr. 3
Focuses on creative ideation processes that can be applied to the research and development of innovative projects across disciplines. Through readings, writings, analysis of prominent creative thinkers and artists, hands-on exercises, and critique students will critically analyze the creative process and the works it generates. Intended for students who are not majoring in a program within the Department of Art and Art History. Offered Fall, Winter.
Restriction(s): Enrollment is limited to students in the Department of Art and Art History.

ADX 1210 Introduction to Studio Art and Design for Non-majors Cr. 3
Students will explore, through lecture and hands-on manipulation, the principles elements of visual communication, and introduce techniques and materials that are used to produce two-dimensional (Surface), three-dimensional (Space), and time-based (Time) works of art. The course is intended for students who are not majoring in a program within the Department of Art and Art History. Offered Fall, Winter.
Restriction(s): Enrollment is limited to students in the Department of Art and Art History.
Course Material Fees: $35

ADX 1400 Photography for Non-Art/Design Majors Cr. 3
Introduces technical, artistic, and theoretical problems associated with photography. Through this class, students will learn how to use their camera as a tool for personal expression as well as analyze and critique photography's use in visual culture. The course will encompass lectures, demonstrations, readings and projects involving basic photographic techniques and image construction using a digital camera. It is intended for those interested in learning how to make and discuss photographs, but are not majoring in a program within the Department of Art and Art History. Offered Every Term.
Restriction(s): Enrollment is limited to students in the Department of Art and Art History.

ADX 1420 Digital Imaging and Video for Non-Art/Design Majors Cr. 3
Introductory survey of methods for the production of digital images and video editing and compositing techniques students, who are not majoring in a program within the Department of Art and Art History. Offered Every Term.

AED - ART EDUCATION

AED 5000 Introduction to Art Education Cr. 3
Design of developmentally appropriate and comprehensive art experiences, teaching strategies, and authentic assessment of student learning in art. History, theories and philosophies of visual arts education; contemporary trends and issues. Offered Fall.
Restriction(s): Enrollment limited to students in the College of Education.
Course Material Fees: $15

AED 5020 Painting: Methods and Materials Cr. 3
Methods, materials and processes suitable for teaching painting in the schools. Subject selection, composition, surface selection and preparation, mixing and application of paint, finishing, and presentation. Students develop basic skills in painting for personal artistic expression. Offered Fall.
Restriction(s): Enrollment limited to students in the College of Education.
Course Material Fees: $15
Repeatable for 9 Credits

AED 5050 Integrating the Arts into the Elementary Classroom Cr. 3
Satisfies General Education Requirement: Cultural Inquiry, Visual Performing Arts
Introductory course: integration of visual arts, music, dance, and theatre into the teaching, learning and curriculum of the elementary classroom. Offered Fall, Winter.
Prerequisites: 2 of ELE 3300, ELE 3400, ELE 3500, ELE 3600, ELE 6290, ELE 6390, ELE 6500, ELE 6600 and 1 of ELE 3320, ELE 6310 and TED 5150
Course Material Fees: $30

AED 5070 Methods and Materials of Sculptural Expression Cr. 3
Exploration of three-dimensional forms using various media; emphasis on sculptural concepts, materials, tools and techniques related to teaching sculpture on the elementary and secondary level. Offered Fall.
Restriction(s): Enrollment limited to students in the College of Education.
Course Material Fees: $15

AED 5100 Topics in Art Education Cr. 1-3
Art experiences designed for the specific needs of special groups. Topics to be announced in Schedule of Classes. Offered Winter.
Restriction(s): Enrollment limited to students in the College of Education.
Course Material Fees: $15

AED 5150 Computer Graphics in the Classroom Cr. 3
Introduction to digital media and the production of computer graphics by using drawing, painting, graphic design, animation, video and web techniques. Offered Spring/Summer.
Restriction(s): Enrollment limited to students in the College of Education.

AED 5160 Theory and Practice in Art Education Cr. 3
Development and analysis of instructional objectives in art education; organization and management of art classrooms; teaching strategies and assessment practices. Offered Spring/Summer.
Restriction(s): Enrollment limited to students in the College of Education.

AED 5230 Ceramics Education I Cr. 3
An overview of handbuilding processes, various firing procedures including blackware and raku, decorating, glazing and equipment maintenance. Emphasis placed on the educational benefits and procedures for working with people of various ages and the management of materials for teaching. Offered Spring/Summer.
Restriction(s): Enrollment limited to students in the College of Education.
Course Material Fees: $25

AED 5280 Printmaking: Methods and Materials Cr. 3
Studio exploration of relief, planographic, intaglio, and stencil processes as methods of reproduction for artistic expression. Examination of tools, methods and processes suitable for the classroom. Includes study in lithography, dry point, etching, calligraphy, woodcut, linocut, and photo screen processes. Offered Spring/Summer.
Restriction(s): Enrollment limited to students in the College of Education.
Course Material Fees: $15
Repeatable for 9 Credits

AED 5650 Art Teaching Laboratory Cr. 3
Laboratory experience in teaching art to elementary, middle, and high school students. Pre-student teaching experiences under close supervision of an experienced Visual Arts teacher. Offered Fall.
Prerequisites: May be taken concurrently: AED 5100 with a minimum grade of D- and AED 5160 with a minimum grade of D-
Restriction(s): Enrollment limited to students in the College of Education.

AED 5690 Collage, Assemblage, and Multi-Media: Methods and Materials Cr. 3
History and methods of creating collage, assemblage, and multi-media art works. Integration of developmental issues, use of personal meaning and experience for lesson planning, unit planning, and work assessment strategies. Offered Winter.
Prerequisites: ADR 1050, ADR 1060, AH 1110, and AH 1120 or ADR 2070, APA 2100, and ASL 2150
Course Material Fees: $40

AED 5890 The Art of Indigenous Cultures: Inclusion in the K-12 Curriculum Cr. 3
Focus on non-Western, indigenous art forms, such as Balinese architecture, ceramics of Papua New Guinea, Aboriginal painting, Precolumbian culture, and Japanese gardens; means of integrating this content into the K-12 Curriculum. Offered Winter, Spring/Summer.
Prerequisites: AH 1110 and AH 1120

AED 6230 Ceramics Education II Cr. 3
Emphasis is placed on throwing procedures, the use of various clay bodies, firing at various temperatures, making and using tools, ceramic history and its use and benefits in a school curriculum. Offered Spring/Summer.
Restriction(s): Enrollment limited to students in the College of Education.
Course Material Fees: $35
Repeatable for 9 Credits

AED 6300 Explorations in Art Therapy Cr. 3
Provides non-majors with introduction to art therapy, its history and development, and major approaches. Offered Yearly.

AED 6320 Art Therapy: Introduction and Ethics Cr. 3
Introduction to and ethics of art therapy practice. Offered Yearly.
Course Material Fees: $25

AED 6340 Theory of Art Therapy Cr. 3
Slide lectures, studio experiences, assigned readings, discussions, and critical evaluations in the history and literature of art therapy and closely-related fields. Offered Yearly.

AED 6360 Aspects of Art Therapy Cr. 1-12
Aspects of the use of art therapy chosen to develop students' breadth or depth in art therapy practice with various groups and settings. Offered Yearly.
Repeatable for 12 Credits

AED 6910 Multicultural Issues in Visual Arts Education and Art Therapy Cr. 2-3
Provides all visual arts education and art therapy students with discipline-specific experiences, current theoretical perspectives, and best practices to enhance the effectiveness of their work in diverse and multicultural learning or therapeutic environments. Requires 40 hours of Service Learning in the community. Offered Winter.
Restriction(s): Enrollment limited to students in the College of Education.

AED 7300 Studio Art Therapy Cr. 3
Students focus on studio art in the development of art experientials to address various client needs. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $25

AED 7310 Art Therapy with Groups Cr. 4
Therapeutic factors of groups; facilitation of art therapy groups. Offered Winter.
Prerequisites: AED 6320 and AED 6340 and AED 7300
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $25

AED 7330 Art Therapy in the Schools Cr. 3
Slides, lectures and studio experiences relating to the research, theory and practices of art therapy with children. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $25

AED 7340 Art Therapy with Adults: Assessment and Practice Cr. 3
In-depth presentation of theory, practice and research in art therapy with older adults. Slides, lectures, studio experiences. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $25

AED 7380 Art Therapy Practicum Cr. 2-3
Laboratory experience and lecture in art therapy with children and/or adults. Includes assessment, planning goals and objectives, implementing the session, evaluating the session, case supervision, and the assessment of and development of therapeutic skills. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $25
Equivalent: CED 7150, RCI 7430

AED 7700 Advanced Graduate Problems Cr. 3-12
Pursuit of specific problems in depth. Laboratory hours coordinated with regularly scheduled classes in the selected area. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $15
Repeatable for 12 Credits

AED 7890 Art Therapy Internship Cr. 1-6
Supervised advanced internship of 600 hours in the practice of art therapy with individuals, groups and/or families; includes regular seminar in which art therapy methods in various fields are explored. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: CED 7020, RCI 7460
Repeatable for 6 Credits

AET - ALTERNATIVE ENERGY TECHNOLOGY

AET 5110 Fundamental Fuel Cell Systems Cr. 4
Introduce various types of fuel cells, materials properties of electrodes and polymeric membranes, and electrochemical mechanisms. Reforming of various types of hydrocarbon fuel to hydrogen, and reforming technology. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.
Equivalent: CHE 5110, EVE 5130, ME 5110

AET 5120 Fundamentals of Alternative Energy Technology Cr. 4
Provide an overview/review of thermodynamics. Cover advanced thermodynamics topics of energy and chemical reacting systems. Introduce general areas of alternative energy technology, engineering analysis and design of solar angle/time/radiation, solar heating, solar photovoltaic, and wind power. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.
Equivalent: ME 5120

AET 5250 Alternative Energy Technology System and Design Cr. 4
Topics such as: batteries, flywheels, capacitors, motors, controllers, power management, heat dissipation, systems containment, manufacturing processes, systems dynamics. Lectures and design projects. Offered Fall.
Prerequisites: AET 5120
Restriction(s): Enrollment is limited to Graduate or Undergraduate level students; enrollment limited to students in the College of Engineering.

AET 5310 Fundamentals of Battery Systems for Electric and Hybrid Vehicles Cr. 4
Covers fundamental electrochemistry and engineering aspects for electric propulsion batteries including lead acid, nickel metal hydride, lithium ion and capacitor technologies. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.
Equivalent: CHE 5120, EVE 5120, ME 5215

AET 5330 Modeling and Control of Power Electronics and Electric Vehicle Powertrains Cr. 4
Basic methodologies for modeling, control system design of renewable power sources and power electronics systems. Offered Fall.
Restriction(s): Enrollment is limited to Graduate or Undergraduate level students; enrollment limited to students in the College of Engineering.
Equivalent: ECE 5330, EVE 5430

AET 5410 Energy, Emissions, Environment (E3) Design Cr. 3
Provides students the tools to uncover the relation between energy consumption and energy generation and optimize processes to take most advantage of low emitting energy options. Exposes students to design tools and methodologies from a diverse group of sources including US EPA, DOE, EIA, and the latest in emerging research. Offered Fall.
Equivalent: CE 5410, STE 5410

AET 5600 Integrated Product Development Cr. 3
Product development process: product architectures, concurrent engineering. Integration of marketing, design, and manufacturing functions for product development. How such processes are designed to account for various manufacturing and other business constraints to ensure that customer needs are met. Offered Fall.
Restriction(s): Enrollment limited to students in the College of Engineering.
Equivalent: EVE 5600, IE 6405

AET 5810 Power Management for Advanced Energy Storage Systems and its Applications Cr. 4
Operating principles and modeling of energy storage techniques; control and power management, power electronic converters, electric machines, and power systems; power management strategies of hybrid energy systems including HEV and alternative energy systems. Offered Fall, Winter.
Prerequisites: ECE 4470
Restriction(s): Enrollment limited to students in the College of Engineering.
Equivalent: EVE 5810

AET 7990 Directed Study Cr. 1-4
Independent projects on subjects of interest in advanced energy technology. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 4 Credits

AET 7991 Internship in Industry Cr. 1-4
Industrial internship in alternative energy technology. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.

AET 8996 Directed Research Cr. 1-4
Independent research projects. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.

AET 8999 Master's Thesis Research and Direction Cr. 1-8
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 8 Credits

AFA - ART: DESIGN AND MERCHANDISING

AFA 2410 Textiles Cr. 3
Introduction to fibers, yarns, fabric construction, design and finishes and how they relate to selection, use and care of textile products. Offered Fall, Winter.
Course Material Fees: $35

AFA 2420 Fashion Design: Basic Construction Cr. 3
Application of color and design principles in construction of structured and unstructured garments. Offered Fall, Winter.
Course Material Fees: $65

AFA 3400 Clothing and Culture Cr. 3
Functions and meanings of dress in diverse cultures and contemporary society with an interdisciplinary approach. Offered Fall.

AFA 3410 Textile Performance Analysis Cr. 3
Recent technological developments; introduction to textile testing, product analysis and industry specifications. Offered Winter.
Prerequisites: AFA 2410
Restriction(s): Enrollment is limited to students in the Department of Art and Art History.
Course Material Fees: $40

AFA 3420 Fashion Design: Advanced Construction Cr. 3
Advanced methods of garment construction and fitting techniques. Development of skills in garment fit, shape and finish techniques. Introduction to flat pattern manipulation to create custom bespoke garments. Offered Fall.
Prerequisites: AFA 2410 with a minimum grade of D- and AFA 2420 with a minimum grade of D-
Course Material Fees: $65

AFA 3460 Introduction to Merchandising Cr. 3
Psychological, economic considerations. Terminology and structure of the fashion industry and career opportunities. Offered Fall, Winter.

AFA 3470 Merchandise Information Cr. 3
Quality and value in merchandising. Manufacturing processes, government regulations and selling points in hard and soft lines. Offered Winter.

AFA 4430 Fashion Illustration Cr. 3
Basic fashion rendering techniques using a variety of media. Offered Every Other Year.
Prerequisites: ADR 1050
Restriction(s): Enrollment is limited to students in the Department of Art and Art History; enrollment limited to students in a Bachelor of Arts, Bachelor of Science or Master of Arts degrees.
Course Material Fees: $40
Repeatable for 6 Credits

AFA 4990 Directed Study Cr. 2-4
Offered Every Term.
Restriction(s): Enrollment is limited to students in the Department of Art and Art History; enrollment limited to students in a Bachelor of Arts, Bachelor of Science or Master of Arts degrees.
Repeatable for 4 Credits

AFA 5422 Fashion Design: Flat Pattern Cr. 3
Original designs from a basic sloper. Offered Yearly.
Prerequisites: AFA 2410 with a minimum grade of D-
Course Material Fees: $25
Repeatable for 9 Credits

AFA 5430 History of Costume Cr. 3
Survey of historic costumes from prehistoric to present. Emphasis on influence of social factors. Offered Fall.

AFA 5442 Fashion Design: Draping Cr. 3
Creation of original garments by draping on half-scale and standard-size dress forms. Offered Intermittently.
Course Material Fees: $65
Repeatable for 9 Credits

AFA 5452 Fashion Design: Tailoring Cr. 3
Tailoring techniques applied to coats and suits. Offered Fall.
Prerequisites: AFA 2420 with a minimum grade of D- and AFA 5422 with a minimum grade of D- and AFA 5442 with a minimum grade of D-
Course Material Fees: $65
Repeatable for 6 Credits

AFA 5460 Merchandising II Cr. 3
Current trends in merchandising. Emphasis on global aspects. Offered Fall.
Prerequisites: AFA 3460
Restriction(s): Enrollment is limited to students in the Department of Art and Art History; enrollment limited to students in a Bachelor of Arts, Bachelor of Science or Master of Arts degrees.

AFA 5470 Visual Merchandising: Display Cr. 3
Visual merchandising concepts and trends. Relationship of design elements and principles to the tools and structures used in display. Creative experimentation in the various media. Offered Fall, Winter.
Prerequisites: ACO 1200 and ACO 1230
Restriction(s): Enrollment is limited to students in the Department of Art and Art History; enrollment limited to students in a Bachelor of Arts, Bachelor of Science or Master of Arts degrees.
Course Material Fees: $65

AFA 5472 Special Topics in Fashion Cr. 1-6
Application of unique printed and dyed fabrics to garment design. Surface design processes and motif development relating directly to clothing design are stressed, along with advanced garment construction techniques. Offered Spring/Summer.
Prerequisites: AFA 2420 with a minimum grade of D- and AFI 2660 with a minimum grade of D-
Course Material Fees: $60
Repeatable for 12 Credits

AFA 5490 Economics of Merchandising Cr. 3
Application of merchandising principles and systematic planning to achieve profit goals. Offered Winter.
Prerequisites: AFA 3460
Restriction(s): Enrollment is limited to students in the Department of Art and Art History; enrollment limited to students in a Bachelor of Arts, Bachelor of Science or Master of Arts degrees.

AFA 5992 Supervised Field Experience Cr. 3
Supervised field experience designed to correlate classroom theory with practical work. Offered Fall.
Restriction(s): Enrollment limited to students with a class of Senior; enrollment is limited to students in the Department of Art and Art History; enrollment limited to students in a Bachelor of Arts, Bachelor of Science or Master of Arts degrees.
Repeatable for 6 Credits

AFA 5997 Seminar Cr. 3
Satisfies General Education Requirement: Writing Intensive Competency
Topics to be announced in Schedule of Classes. Course satisfies the General Education Writing Intensive Course in the Major requirement. Offered for undergraduate credit only. Offered Winter.
Prerequisites: AFS 2390 with a minimum grade of C or ENG 2390 with a minimum grade of C or ENG 3010 with a minimum grade of C or ENG 3020 with a minimum grade of C or ENG 3050 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment is limited to students with a major in Design and Merchandising; enrollment limited to students in a Bachelor of Arts, Bachelor of Science or Master of Arts degrees.

AFA 6440 Computer-Aided Design for Apparel Design Cr. 3
Use of computer-aided design software applied to apparel design concepts; garment designing, grading, and marker-making. Offered Winter.
Prerequisites: AFA 5440
Restriction(s): Enrollment is limited to students in the Department of Art and Art History; enrollment limited to students in a Bachelor of Arts, Bachelor of Science or Master of Arts degrees.
Course Material Fees: $40

AFA 6993 Study Tour Cr. 3
Group tour to major market sources; observation and analysis of products and marketing procedures. Topics to be announced in Schedule of Classes. Offered Every Other Spr/Sum.
Restriction(s): Enrollment is limited to students in the Department of Art and Art History; enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts, Bachelor of Science, Master of Arts or Master of Fine Arts degrees.

AFA 7410 Practicum in Textile Testing Cr. 3
Recent developments in textiles and quality assurance practices. Standardized testing methods to determine textile properties and performance. No credit after AFA 3410. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students in the Department of Art and Art History; enrollment limited to students in a Bachelor of Arts, Bachelor of Science or Master of Arts degrees.
Course Material Fees: $25

AFA 7850 Seminar Cr. 3
Development and practice of the research process and effective writing skills. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students in the Department of Art and Art History; enrollment limited to students in a Bachelor of Arts, Bachelor of Science or Master of Arts degrees.

AFA 7990 Directed Study Cr. 1-4
Individual projects. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students in the Department of Art and Art History; enrollment limited to students in a Bachelor of Arts, Bachelor of Science or Master of Arts degrees.
Repeatable for 8 Credits

AFI - ART: FIBERS

AFI 2650 Beginning Weaving Cr. 3
Weaving techniques on a frame loom. Design concepts through application of tapestry, flossa, sumac, inlay and wrapping process. Exploring fabric weaving by using simple weave patterns. Offered Every Term.
Course Material Fees: $135

AFI 2660 Introduction to Fabric Printing and Dyeing Cr. 3
Emphasis on color, design, composition. Printing with found objects, stencil, silk screen resist method working with pigment and reactive dye. Offered Every Term.
Course Material Fees: $110

AFI 3640 Digital Textile Design Cr. 3
Explore textile design by researching current print and pattern trends in the apparel industry, gaining knowledge and inspiration. Develop innovative pattern collections using original artwork in Adobe Photoshop and Illustrator. Access to the most recent version of Adobe Photoshop and Illustrator is required for this class. Offered Winter.
Prerequisites: ACO 1200 with a minimum grade of C and ADR 1050 with a minimum grade of C
Course Material Fees: $92

AFI 3650 Intermediate Weaving and Fiber Arts Cr. 3
Design on four- and eight-harness looms, off loom construction techniques, and pattern development. Traditional and computerized pattern drafting/development, layer weaving, woven shibori, ikat, crochet, sprang, felting, and other fiber art techniques will be offered on a rotating basis. Offered Every Term.
Restriction(s): Enrollment limited to students in the Fine, Performing & Comm. Arts; enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts, Bachelor of Science, Master of Arts or Master of Fine Arts degrees.
Course Material Fees: $135

AFI 3660 Intermediate Fibers: Printing and Dyeing Cr. 3
Continuation of AFI 2660. Deeper study of fiber reactive dye; beginning of development of personal style. Offered Every Term.
Restriction(s): Enrollment limited to students in the Fine, Performing & Comm. Arts; enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts, Bachelor of Science, Master of Arts or Master of Fine Arts degrees.
Course Material Fees: $110
Repeatable for 6 Credits

AFI 5650 Weaving: Senior Project Cr. 3
Directed project in weaving. Research and written evaluative statement required. Offered Every Term.
Prerequisites: AFI 3650
Restriction(s): Enrollment limited to students in the Fine, Performing & Comm. Arts; enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts, Bachelor of Science, Master of Arts or Master of Fine Arts degrees.
Course Material Fees: $135
Equivalent: AFI 3650, AFI 7650
Repeatable for 6 Credits

AFI 5660 Fabric Printing and Dyeing: Senior Project Cr. 3
Extensive project or series of works determined by student; research and written statement. Offered Every Term.
Prerequisites: AFI 3660
Restriction(s): Enrollment limited to students in the Fine, Performing & Comm. Arts; enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts, Bachelor of Science, Master of Arts or Master of Fine Arts degrees.
Course Material Fees: $110
Repeatable for 6 Credits

AFI 5870 Directed Projects: Fibers Cr. 3-6
Individual problems. Offered Fall, Winter.
Restriction(s): Enrollment limited to students in the Fine, Performing & Comm. Arts; enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts, Bachelor of Science, Master of Arts or Master of Fine Arts degrees.
Repeatable for 998.99 Credits

AFI 7650 Graduate Problems in Weaving Cr. 3
Advanced problems in weaving. Offered Every Term.
Prerequisites: AFI 5650
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in a Master of Arts or Master of Fine Arts degrees.
Course Material Fees: $40
Repeatable for 9 Credits

AFI 7660 Graduate Problems: Fabric Printing and Dyeing Cr. 3
Individual problems in fibers. Offered Every Term.
Prerequisites: AFI 5660
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in a Master of Arts or Master of Fine Arts degrees.
Course Material Fees: $40
Repeatable for 9 Credits

AFI 8860 MFA Studio: Fibers Cr. 3-9
Supervised creative work done in the major concentration. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Art; enrollment limited to students in a Master of Fine Arts degree.
Course Material Fees: $40
Repeatable for 36 Credits

AFS - AFRICAN AMERICAN STUDIES

AFS 1010 Introduction to African American Studies Cr. 3
Satisfies General Education Requirement: Diversity Equity Incl Inquiry, Social Inquiry
An interdisciplinary approach to exploring several broad issues, topics, theories, concepts and perspectives which describe and explain the experiences of persons of African descent in America, the Continent, and the diaspora. Offered Every Term.

AFS 2010 African American Culture: Historical and Aesthetic Roots Cr. 4
Satisfies General Education Requirement: Cultural Inquiry, Civ and Societies (CLAS only), Diversity Equity Incl Inquiry
Examination of the historical, traditional and aesthetic bases of a variety of cultural forms -- language, literature, music -- of the Black experience. Offered Every Term.

AFS 2210 Black Social and Political Thought Cr. 4
Satisfies General Education Requirement: Civic Literacy, Diversity Equity Incl Inquiry, Social Inquiry, Social Sciences
Survey of the Black intellectual and political tradition from the United States, the Caribbean and Africa. Offered Every Term.

AFS 2245 Blacks and Sport in the United States Cr. 3
The intersection between race and sport in the United States, examined to better understand the role of sports in our socialization and cultural construction. Offered Every Other Year.
Restriction(s): Enrollment is limited to Undergraduate level students.
Equivalent: SOC 2245

AFS 2250 AfroLatino/a History and Culture Cr. 3
Satisfies General Education Requirement: Cultural Inquiry
Interdisciplinary introduction to the history and culture of AfroLatinos/as in the U.S. from the perspective of the African Diaspora in the Americas. Offered Winter.
Equivalent: LAS 2250

AFS 2350 Black Detroit Cr. 3
Satisfies General Education Requirement: Diversity Equity Incl Inquiry
Explores the historical, cultural and structural aspects of the Black urban experience in Detroit from the late 19th Century to the present, including the role that racism, urbanization and suburbanization have played in shaping racial, spatial and economic inequality in the Detroit Metropolitan area. Utilizes an interdisciplinary approach: to interrogate the social and cultural history of Black Detroit, to examine the various forms of Black social movement activism used by Black Detroiters in the 20th Century, and to analyze ways the shifting economic and political currents shaped, and reshaped racism, class, space, and resistance in the Detroit metropolitan area. Offered Fall, Winter.
Equivalent: HIS 2350, US 2350

AFS 2390 Introduction to African-American Literature: Literature and Writing Cr. 3
Satisfies General Education Requirement: Diversity Equity Incl Inquiry, Intermediate Comp Pre-2018, Intermediate Comp Post-2018
Introduction to major themes and some major writers of African-American literature, emphasizing modern works. Reading and writing about representative poetry, fiction, essays, and plays. Offered Every Term.
Prerequisites: ENG 1020 with a minimum grade of C or ENG 1050 with a minimum grade of C or College Level Exam Program with a test score minimum of BC-BD or AA Exempt from Gen Ed MACRAO with a test score minimum of 100 or Michigan Transfer Agreement with a test score minimum of 100 or BA Competencies Waiver with a test score minimum of 100
Equivalent: ENG 2390

AFS 2600 Race and Racism in America Cr. 3
Satisfies General Education Requirement: Diversity Equity Incl Inquiry
Examination of the nature and practice of racism in American society from its historical foundations to its contemporary institutional forms. Offered Every Other Year.
Equivalent: SOC 2600

AFS 3140 African American History I: 1400-1865 Cr. 3-4
Satisfies General Education Requirement: Diversity Equity Incl Inquiry
African origins of African Americans; transition from freedom to slavery; status of African Americans under slavery. Offered Yearly.
Equivalent: HIS 3140

AFS 3150 African American History II: 1865-1968 Cr. 3-4
Satisfies General Education Requirement: Diversity Equity Incl Inquiry
African American history from Reconstruction through the Civil Rights Movement. Offered Yearly.
Equivalent: HIS 3150

AFS 3155 African American History III: 1968 - Present Cr. 3-4
Satisfies General Education Requirement: Diversity Equity Incl Inquiry
History of African Americans' struggle against persistent and stubborn racism, efforts to achieve full citizenship, and legal and economic justice after 1968. Offered Intermittently.
Restriction(s): Enrollment is limited to Undergraduate level students.
Equivalent: HIS 3155

AFS 3160 Black Urban History Cr. 4
Satisfies General Education Requirement: Diversity Equity Incl Inquiry
Historical experience of African Americans in urban areas; impact of their communities on urban development from 1860 to contemporary times. Offered Fall, Winter.
Equivalent: HIS 3160

AFS 3170 Ethnicity and Race in American Life Cr. 3-4
Satisfies General Education Requirement: Diversity Equity Incl Inquiry
Exploration of complicated relationship between ethnic and racial diversity and the making of America. Using historical, literary, and cultural readings and sources to examine key themes: Who was the ""Other""? What is an ""American""? Offered Yearly.
Equivalent: HIS 3170

AFS 3180 Black Social Movements Cr. 4
Satisfies General Education Requirement: Diversity Equity Incl Inquiry
Survey of mass or popular Black movements with emphasis on their political and cultural impact, historical continuity and organization. Offered Yearly.
Equivalent: HIS 3180

AFS 3200 The African-American Film Experience Cr. 4
Historical and contemporary portrayals of African American people in narrative and documentary film. Emphasis on filmic approaches to race relations, cinematic elaboration of racial stereotypes, and legitimation functions of film. Offered Yearly.
Restriction(s): Enrollment is limited to Undergraduate level students.
Equivalent: COM 3230

AFS 3230 The Civil Rights Movement Cr. 3
Historically-driven survey of the Civil Rights Movement; focus on African Americans' efforts to enjoy the full benefits of American citizenship. Offered Yearly.
Restriction(s): Enrollment is limited to Undergraduate level students.
Equivalent: HIS 3230

AFS 3250 Politics and Culture in Anglophone Caribbean Cr. 3
Satisfies General Education Requirement: Civic Literacy, Foreign Culture, Global Learning Inquiry
Survey of political, economic and cultural life of the Caribbean. Relationship of the Caribbean to U.S. and world political and cultural developments. Interdisciplinary approach: historical, comparative, thematic issues. Offered Yearly.

AFS 3360 Black Workers in American History Cr. 4
Satisfies General Education Requirement: Social Inquiry
Survey course. Slave and free workers during antebellum period; skill trades, sharecropping, menial labor, and coal mining during Reconstruction; labor struggles and job discrimination in the twentieth century. Offered Fall, Winter.
Equivalent: HIS 3360

AFS 3420 Pan Africanism: Politics of the Black Diaspora Cr. 4
Satisfies General Education Requirement: Global Learning Inquiry
Interplay of Pan Africanism as a cultural and socio-political movement in world politics from its origins as a concept to organizing practice worldwide. Offered Yearly.
Equivalent: PS 3820

AFS 3500 Special Topics Cr. 3
Specialized and topical studies in historical events, personalities and themes. Topics to be announced in the schedule of classes. Offered Every Term.
Repeatable for 9 Credits

AFS 3610 Interdisciplinary Perspectives on Foreign Culture: The Africans Cr. 4
Satisfies General Education Requirement: Foreign Culture, Global Learning Inquiry
Humanistic aspects, history, socio-cultural institutions of African cultures; theory and methods, comparativist perspectives. Offered Yearly.

AFS 3750 African American Art Cr. 3
Historical inquiry of African American art from the eighteenth century to today. Offered Yearly.
Equivalent: AH 3750

AFS 3760 Art of the African Diaspora Cr. 3
Examines art of the African Diaspora and how this history of dissemination affected art making in various geographical, cultural, and sociopolitical paradigms. Offered Fall.
Equivalent: AH 3760

AFS 4240 African Americans in Television Cr. 4
Historical overview of African Americans in radio and television with emphasis on three areas of study: news and documentary; entertainment and advertising; and ownership, employment and access. Offered Yearly.
Equivalent: COM 4240

AFS 5030 African American Politics Cr. 4
Nature and texture of black politics; various perspectives on politics by blacks; the impact of blacks on American politics. Offered Every Other Year.
Equivalent: PS 5030

AFS 5110 Black Women in America Cr. 3
Satisfies General Education Requirement: Writing Intensive Competency
Social, cultural, artistic and economic development of Black women in America; topics include: racism, sexism, marriage, motherhood, feminism, and the welfare system. Offered Yearly.
Equivalent: GSW 5110

AFS 5220 Black Dramatic Literature and Performance Cr. 3
Satisfies General Education Requirement: Diversity Equity Incl Inquiry
Critical study of significant Black dramatists of the American stage: Willis Richardson, Marita Bonner, Randolph Edmonds, Langston Hughes, Alice Childress, Lorraine Hansberry, Ed Bullins, Amiri Baraka, Ntozake Shange, and August Wilson. Offered Yearly.
Course Material Fees: $10
Equivalent: THR 5821

AFS 5230 The Civil Rights Movement Cr. 3
Historically-driven survey of the Civil Rights Movement; focus on African Americans' efforts to enjoy the full benefits of American citizenship. Offered Yearly.
Equivalent: HIS 5235

AFS 5241 American Slavery Cr. 4
Rise, expansion, and demise of slavery in the United States. Study of the five generations of Americans who lived with this institution; the unique imprint of slavery on American history and collective memory. Offered Yearly.

AFS 5261 African Americans, History and Memory Cr. 3
An examination of the ways different groups and institutions remember and forget African American history. Each term the course will have a specific focus that will be advertised in advance. Offered Fall.
Equivalent: HIS 5261
Repeatable for 6 Credits

AFS 5310 Special Topics in African American Studies Cr. 3-4
Topics to be announced in Schedule of Classes; topics may include: Caribbean politics, African development, male-female relationships, Negritude. Offered Every Term.
Repeatable for 12 Credits

AFS 5570 Race Relations in Urban Society Cr. 3
Theoretical orientations applied analytically to enhance an understanding of the patterned structures of privilege in society which are based on race. Inequality, segregation-desegregation, pluralism; social structural frameworks; some attention to social-psychological aspects of topics such as prejudice and racism. Offered Intermittently.
Equivalent: SOC 5570

AFS 5580 Law and the African American Experience Cr. 4
In-depth examination of the African American experience with law in the U.S.; historical development of the U.S. Constitution; legal barriers to equality and the influence of race on the law; use of law as a political instrument; participation of Blacks in the legal process; comparisons with other countries. Offered Every Other Year.
Equivalent: SOC 5580

AFS 5700 The Psychology of African Americans Cr. 4
Methodological approaches to and theories of Black behavior and personality development. Topics include: race and pathology, life-span and psycho-sexual development, personality formation, social and environmental stress and adaptation. Offered Every Term.
Equivalent: PSY 5700

AFS 5740 Ethnicity: The Politics of Conflict and Cooperation Cr. 4
Current ethnic (racial, linguistic, religious, and cultural) conflicts regionally, nationally and internationally. Introduction to concepts and analytic perspectives for understanding ethnicity as a factor in nation building and maintenance. Offered Yearly.
Equivalent: PCS 5500, PS 5740

AFS 5991 Field Work in the Black Community Cr. 3-8
Field placement in community-based, human services, and civic organizations and governmental agencies. Offered for undergraduate credit only. Offered Yearly.
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment is limited to students with a major in Africana Studies; enrollment limited to students in a Bachelor of Arts degree.

AFS 5993 Writing Intensive Course in African American Studies Cr. 0
Satisfies General Education Requirement: Writing Intensive Competency
Disciplined writing assignments under the direction of a faculty member. Must be selected in conjunction with a designated corequisite; see section listing in Schedule of Classes for corequisites available each term. Satisfies the University General Education Writing Intensive Course in the Major requirement. Required for African American Studies majors. Offered Every Term.
Prerequisite: AFS 3160 (may be taken concurrently) with a minimum grade of C- or AFS 3180 (may be taken concurrently) with a minimum grade of C- or AFS 3200 (may be taken concurrently) with a minimum grade of C- or AFS 3250 (may be taken concurrently) with a minimum grade of C- or AFS 3420 (may be taken concurrently) with a minimum grade of C- or AFS 3610 (may be taken concurrently) with a minimum grade of C- or AFS 5110 (may be taken concurrently) with a minimum grade of C-
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment is limited to students with a major in African American Studies.

AFS 6100 Class, Race, and Politics in America Cr. 3
Historical and analytic investigation into the role of class and race in American politics. Offered Intermittently.
Equivalent: HIS 5110, PS 6050, SOC 7330, UP 7030

AFS 6170 Studies in Ethnicity and Race in American Life Cr. 3-4
Exploration of complicated relationship between ethnic and racial diversity and the making of America. Using historical, literary, and cultural readings and sources to examine key themes: Who was the ""Other""? What is an ""American""? Offered Every Other Year.
Equivalent: HIS 6170

AFS 6455 Discrimination and Fair Housing Cr. 3
Multidisciplinary investigation into the nature, motivations, consequences, and legal/public policy implications of racial/ethnic discrimination in housing and related markets in U.S. metropolitan areas. Offered Every Other Year.
Equivalent: ECO 6455, PS 6455, SOC 6455, UP 6455, US 6455

AFS 6600 Urban Poverty and Racial Segregation Cr. 3
Review of theories of poverty from various economic/political perspectives; historical intervention policies; current literature on interplay of racial, economic, and spatial factors on growing economic inequality among urban whites and African-Americans. Political rationale and meaning of the underclass debate. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: ANT 7260, PS 7260, SOC 7350, UP 7260

AFS 6990 Directed Study Cr. 3-8
Reading and research projects. Offered Yearly.

AFS 7241 Readings in American Slavery Cr. 4
Rise, expansion, and demise of slavery in the United States. Study of the five generations of Americans who lived with this institution; the unique imprint of slavery on American history and collective memory. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.

AGD - ART: GRAPHIC DESIGN

AGD 2230 Introduction to Typography: Skills and Concepts Cr. 3
Introduction to typography through the use of digital and hand craft skills and conceptual framing for working with letter forms and the layout of text. Assignments and demonstrations to develop thinking and making abilities. Offered Fall, Winter.
Course Material Fees: $90

AGD 2240 Introduction to Graphic Design: Skills and Concepts Cr. 3
Introduction to graphic design skills (digital and analog) and concepts necessary for working with images and type. Assignments and demonstrations will develop design thinking and creative abilities. Offered Fall, Winter.
Course Material Fees: $90

AGD 2250 Typography Cr. 3
Fundamental understanding of structure, history, technology and application of typography, the visualization of language. Functional and experimental aspects of typography; typographic syntax and hierarchies. Offered Fall, Winter.
Prerequisites: ACO 1200 or ACO 1230 or ACO 1270 and AGD 2230 and May be taken concurrently: AGD 2240
Course Material Fees: $90

AGD 3250 Graphic Design I: Principles and Problem Solving Cr. 3
Visual communication issues and applications: design methodology, problem-solving, relation of form to meaning, type/image relationships. Offered Fall, Winter.
Prerequisites: May be taken concurrently: AGD 2230 and AGD 2240 and ACO 1200 or ACO 1230 or ACO 1270
Restriction(s): Enrollment limited to students in a Bachelor of Arts or Bachelor of Fine Arts degrees.
Course Material Fees: $90

AGD 3260 Introduction to Interactivity in Graphic Arts Cr. 3
Exploration of a variety of art-making strategies that utilize digital technologies and interactive media; emphasis on computer-based and online art practices and web-oriented programming languages. Offered Yearly.
Prerequisites: ACO 1200 with a minimum grade of D- or ACO 1230 with a minimum grade of D- or ACO 1270 with a minimum grade of D- or APH 2400 with a minimum grade of D-
Course Material Fees: $145
Equivalent: ADA 3220

AGD 3270 Introduction to Illustration Cr. 3
Introduction to the role that illustration plays within graphic design; students will use both traditional and digital media to create illustrations and hand lettering to communicate messages intended for reproduction. Offered Yearly.
Course Material Fees: $90

AGD 3700 History of Graphic Design Cr. 3
History of the discipline of graphic design from its early practices to the present, with an emphasis on technological and theoretical advances that took place during the twentieth century. Offered Winter.
Prerequisite: AGD 2230 with a minimum grade of D- and AGD 2240 with a minimum grade of D-

AGD 4250 Graphic Design II: Word, Image, and Visual Organization Cr. 3
Students apply knowledge of typography and visual design principles to specific design situations; emphasis on use of grid systems. Offered Yearly.
Prerequisites: 2 of ACO 1200, ACO 1230, ACO 1270 and AGD 2230 and AGD 2240 and AGD 2250 and AGD 3250
Restriction(s): Enrollment limited to students with a class of Junior or Senior; enrollment limited to students in a Bachelor of Arts or Bachelor of Fine Arts degrees.
Course Material Fees: $90

AGD 4260 Professional Practice Cr. 3
Preparation for working professionally as a graphic designer including portfolio and resume development, working with clients, budgets, and schedules. Offered Yearly.
Prerequisites: AGD 2240 with a minimum grade of D- and AGD 3250 with a minimum grade of D- and AGD 4250 with a minimum grade of D-
Course Material Fees: $55

AGD 4270 Intermediate Illustration Cr. 3
Development of illustration skills; students will learn to effectively use both traditional and digital media to create illustrations and hand lettering to communicate messages intended for reproduction. Students engage in problems that demand research, creation and management of numerous visual and informational elements within a given visual product. Offered Yearly.
Prerequisite: AGD 3270
Course Material Fees: $90

AGD 5250 Graphic Design III: Complexity and Variety in Design Cr. 3
Complex design situations. Research and methodology. Project may include package design, instruction manuals, book and brochure design, publication design. Offered Fall, Winter.
Prerequisites: AGD 2240 with a minimum grade of D- and AGD 2250 with a minimum grade of D- and AGD 3250 with a minimum grade of D- and AGD 4250 with a minimum grade of D-
Restriction(s): Enrollment is limited to students in the Department of Art and Art History; enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts or Master of Arts degrees.
Course Material Fees: $90

AGD 5260 Senior Seminar Cr. 3
Satisfies General Education Requirement: Writing Intensive Competency
Issues affecting the theory, history, and practice of design; impact of design on society and impact of society on design. Required readings, student presentations, class discussion, slide lectures, guest speakers. Satisfies the General Education Writing Intensive Course in the Major requirement. Offered Winter.
Restriction(s): Enrollment is limited to students in the Department of Art and Art History; enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts or Master of Arts degrees.
Course Material Fees: $50

AGD 5700 Special Topics Cr. 3
Examination of specific issue in design theory, history or practice. Topics may include: corporate identity, globalization of design, exhibition design, design history. Offered Spring/Summer.
Prerequisites: AGD 3250 with a minimum grade of D-
Restriction(s): Enrollment is limited to students in the Department of Art and Art History; enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts or Master of Arts degrees.
Course Material Fees: $90
Repeatable for 15 Credits

AGD 5740 Interactivity Cr. 3
Theory and practice of digital user experience design. Includes prototyping and some programming for the design of websites, apps, and digital media. Builds on foundational interactive, typography and graphic design skills. Offered Yearly.
Prerequisites: AGD 2230 or AGD 2240 or AGD 2250 or AGD 3250 or AGD 3260 or AGD 4250
Course Material Fees: $90

AGD 5750 Information Design Cr. 3
Theory and practice of user-centered design to help people find, understand, and use information. Includes the visualization of information for such things as instructions, maps, forms, diagrams, and digital media. Offered Yearly.
Prerequisites: AGD 2230 or AGD 2240 or AGD 2250 or AGD 3250 or AGD 4250
Course Material Fees: $90

AGD 5890 Directed Projects: Graphic Design Cr. 3-6
Individual problems. Offered Fall, Winter.
Restriction(s): Enrollment is limited to students in the Department of Art and Art History; enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts or Master of Arts degrees.
Course Material Fees: $90
Repeatable for 12 Credits

AGD 5990 Field Study: Internship Cr. 3
Supervised field experience designated to correlate classroom theory with practical work. Offered Every Term.
Prerequisites: AGD 3250 with a minimum grade of D-
Restriction(s): Enrollment limited to students with a class of Senior; enrollment is limited to students in the Department of Art and Art History; enrollment limited to students in a Bachelor of Arts or Bachelor of Fine Arts degrees.
Course Material Fees: $30
Repeatable for 6 Credits

AGD 5997 Senior Studio Cr. 3
Extended student projects such as identity systems with various applications, families of package design, series of form design, or poster series. Possible collaborative projects; extensive research. Offered Fall, Winter.
Prerequisites: 2 of ACO 1200, ACO 1230, ACO 1270 and 2 of AGD 3000-6999 and AGD 2230 and AGD 2240 and AGD 2250 and AGD 3250 and AGD 4250
Restriction(s): Enrollment is limited to students in the Department of Art and Art History; enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts or Master of Arts degrees.
Course Material Fees: $90

AGD 6260 Advanced Typography Cr. 3
Advanced and experimental typography; typography as an expressive language in 2-D and 3-D; projects in information design. Offered Intermittently.
Prerequisites: AGD 4250 with a minimum grade of D-
Restriction(s): Enrollment is limited to students in the Department of Art and Art History; enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts or Master of Arts degrees.
Course Material Fees: $90

AGD 7250 Graduate Problems in Graphic Design Cr. 3-9
Individual problems in advanced advertising design. Offered Fall, Winter.
Prerequisites: AGD 5250 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in a Master of Arts degree.
Course Material Fees: $90
Repeatable for 24 Credits

AGD 8850 MFA Studio: Graphic Design Cr. 3-9
Extended problems in graphic design; individual research with 18 to 27 hours of laboratory per week. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in a Master of Fine Arts degree.
Course Material Fees: $200
Repeatable for 36 Credits

AH - ART HISTORY

AH 1000 Introduction to Art Cr. 3
Satisfies General Education Requirement: Cultural Inquiry, Visual Performing Arts
An introductory survey of art and culture designed to equip students to look purposefully, critically, and contextually at images and events, mindful of the ways that meaning is produced and perceived. Offered Every Term.

AH 1110 Survey of Art History: Ancient through Medieval Cr. 3-4
Satisfies General Education Requirement: Cultural Inquiry, Visual Performing Arts
Survey of traditions and major developments in visual expression in the West, prehistory through Medieval period. Art studied in context of its cultures; techniques of visual analysis. Offered for four credits only to Honors students. Offered Every Term.

AH 1120 Survey of Art History: Renaissance through Modern Cr. 3-4
Satisfies General Education Requirement: Cultural Inquiry, Visual Performing Arts
Traditions and developments in visual expression in the West, Renaissance through twentieth century. Art in context of its cultures; techniques of visual analysis. Offered for four credits only to Honors students. Offered Every Term.

AH 1130 Encounters with the Arts of Global Africa Cr. 3
Satisfies General Education Requirement: Cultural Inquiry, Global Learning Inquiry, Visual Performing Arts
Introductory survey of the arts of Africa and the African Diaspora, focusing on the visual culture of cross-cultural contact within Africa and beyond. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Undergraduate level students.

AH 3070 Art and Archeology of Ancient Egypt Cr. 3
An introduction to the history and development of Egyptian artistic style in architecture, sculpture, painting and the applied arts; historical, social and religious background. Offered Intermittently.

AH 3150 The Arts of Africa: Local and Global Visions Cr. 3
Traditional, modern and contemporary arts of Africa, as well as the impact of African culture on the Americas. Emphasis on global politics of intercultural contact between Africa and the West. Offered Fall.
Prerequisites: AH 1110 with a minimum grade of C- and AH 1120 with a minimum grade of C-
Restriction(s): Enrollment is limited to Undergraduate level students.

AH 3240 Mythology in Greek Art Cr. 3
The myths of the Greeks as they appeared on painted vases, and the strategies of visual storytelling employed. Offered Intermittently.

AH 3410 Medieval Art and Architecture Cr. 3
Monasticism as a driving force in medieval culture; art and architecture produced by and for Christian religious communities, A.D. 300-1400. Offered Intermittently.
Prerequisites: AH 1110

AH 3470 Islamic Art and Architecture Cr. 3
Satisfies General Education Requirement: Global Learning Inquiry
Survey of art and architecture of Islam from its origins in the seventh century to the Ottoman Empire. Offered Intermittently.

AH 3560 Special Topics Cr. 3
Students examine specific issues related to art history. Offered Intermittently.
Restriction(s): Enrollment is limited to Undergraduate level students.
Repeatable for 12 Credits

AH 3650 Nineteenth-Century European Art and Architecture Cr. 3
Introduction to European art and architecture from 1780 to 1900; survey of major developments in 19th century painting, sculpture, printmaking and photography. Offered Fall, Winter.

AH 3700 Contemporary Art Cr. 3
Introduction for studio art majors: ideas and styles of modern art. The gap between those who make art and those who write about it. Access to the discipline of art history through tracing the origins of a variety of contemporary art practices. Offered Yearly.
Prerequisites: AH 1000-1999

AH 3750 African American Art Cr. 3
Satisfies General Education Requirement: Diversity Equity Incl Inquiry
Historical inquiry of African American art from the eighteenth century to today. Offered Yearly.
Equivalent: AFS 3750

AH 3760 Art of the African Diaspora Cr. 3
Examines art of the African Diaspora and how this history of dissemination affected art making in various geographical, cultural, and sociopolitical paradigms. Offered Fall.
Equivalent: AFS 3760

AH 5210 Hellenistic Art Cr. 3
Sculpture, painting and architecture of the Greek world from Alexander the Great to Cleopatra. Offered Intermittently.
Prerequisites: AH 1110 with a minimum grade of C and AH 1120 with a minimum grade of C

AH 5250 Ancient Rome Cr. 3
Development of Rome into an imperial capital. Design, function and political significance of public monuments in the city. Offered Intermittently.
Prerequisites: AH 1110 with a minimum grade of C and AH 1120 with a minimum grade of C

AH 5260 Classical Greek Art Cr. 3
Greek painting, sculpture and architecture of the fifth and fourth centuries B.C. Emphasis on decorative programs of temples and cult statues. Offered Intermittently.
Prerequisites: AH 1110 with a minimum grade of C and AH 1120 with a minimum grade of C

AH 5270 Roman Painting and Sculpture Cr. 3
Painting and sculpture of the Roman Republic and Empire, and their cultural context. Offered Yearly.
Prerequisites: AH 1110 with a minimum grade of C and AH 1120 with a minimum grade of C

AH 5310 The Ancient City of Athens Cr. 3
The history of Athens as an urban center in antiquity. Public monuments, buildings and landscape as reflecting the city's aspirations and fortunes. Offered Intermittently.
Prerequisites: AH 1110 with a minimum grade of C and AH 1120 with a minimum grade of C

AH 5450 Art and Architecture in the High Middle Ages Cr. 3
Art and architecture in western Europe, 1050-1250. Development of Romanesque and Gothic styles in architecture, painting, and sculpture. Offered Intermittently.
Prerequisites: AH 1110 with a minimum grade of C and AH 1120 with a minimum grade of C

AH 5500 Early Renaissance in Italy Cr. 3
Art and architecture from Giotto to Botticelli; transformation of late medieval art prior to Black Death, classical revival in Florence; North Italian artists such as the Bellinis and Mantegna. Offered Every Other Year.
Prerequisites: AH 1110 with a minimum grade of C and AH 1120 with a minimum grade of C

AH 5510 High Renaissance and Mannerism in Italy Cr. 3
The art of Leonardo, Raphael, Michelangelo, Titian, and their contemporaries. Offered Intermittently.
Prerequisites: AH 1110 with a minimum grade of C and AH 1120 with a minimum grade of C

AH 5520 Art of Renaissance Venice Cr. 3
Art of fifteenth and sixteenth century Venice considered in its socio-political milieu. Offered Every Other Year.
Prerequisites: AH 1110 with a minimum grade of C and AH 1120 with a minimum grade of C

AH 5560 Special Topics Cr. 3
Students examine specific issues related to art history. Offered for undergraduate credit only. Offered Intermittently.
Restriction(s): Enrollment is limited to Undergraduate level students.
Repeatable for 12 Credits

AH 5570 Performance Art of the Americas Cr. 3
Explores Performance Art created in North, Central, and South America, as well as in the Caribbean. Performance Art is a Western visual art movement in which the artist's body is the primary medium of expression, and this art form's evolution will be examined from the late nineteenth to the twenty-first centuries. Offered Fall.

AH 5710 Trends in Nineteenth Century Art Cr. 3
Topics to be announced in Schedule of Classes. Offered Every Other Year.
Prerequisites: AH 1110 with a minimum grade of C and AH 1120 with a minimum grade of C

AH 5715 Modernism: Nineteenth and Twentieth Centuries Cr. 3
Origins of Modernism in the mid-nineteenth century; avant-garde art in Europe and the U.S. from 1850 to 1950; theories of Modernism in the visual arts. Offered Every Other Year.
Prerequisites: AH 1110 with a minimum grade of C and AH 1120 with a minimum grade of C

AH 5720 Twentieth Century Art Cr. 3
European and American paintings, sculpture, and new media surveyed from 1900 to present. Offered Every Other Year.
Prerequisites: AH 1110 with a minimum grade of C and AH 1120 with a minimum grade of C

AH 5735 Art 1900-1945 Cr. 3
European and American avant-garde art, Dada and Surrealism, the interwar period, and Abstract Expressionism. Offered Every Other Year.
Prerequisites: AH 1110 with a minimum grade of C and AH 1120 with a minimum grade of C

AH 5755 Gender and Race in Visual Culture Cr. 3
This course will interrogate the ways in which gendered and racialized bodies are epitomized in the myriad of form that comprise visual culture. Offered Fall.

AH 5780 Topics in Twentieth-Century Art Cr. 3
Topics to be announced in Schedule of Classes. Offered Yearly.
Prerequisites: AH 1110 with a minimum grade of C and AH 1120 with a minimum grade of C
Repeatable for 12 Credits

AH 5855 Museum Practicum Cr. 3
Cooperative arrangement between the art history program and the Detroit Institute of Arts, in which the student applies art historical training to a current project or exhibition in the museum. Offered Every Other Year.
Prerequisites: AH 1110 with a minimum grade of C and AH 1120 with a minimum grade of C

AH 5990 Directed Study Cr. 1-3
Supervised advanced reading and research in the history of art. Offered Fall, Winter.
Restriction(s): Enrollment is limited to students in the Department of Art and Art History; enrollment limited to students in a Bachelor of Arts or Master of Arts degrees.
Repeatable for 6 Credits

AH 5993 Writing Intensive Course in Fine Arts Cr. 0
Satisfies General Education Requirement: Writing Intensive Competency Required for all majors. Offered Fall, Winter.
Prerequisites: AH 1110 with a minimum grade of D- or AFS 2390 with a minimum grade of C or ENG 2390 with a minimum grade of C or ENG 3010 with a minimum grade of C or ENG 3020 with a minimum grade of C or ENG 3050 with a minimum grade of C and AH 1120 with a minimum grade of D- and AH 2000-6999 with a minimum grade of D- and May be taken concurrently: AH 3000-6999 with a minimum grade of D-
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment is limited to students in the Department of Art and Art History; enrollment limited to students in a Bachelor of Arts or Bachelor of Fine Arts degrees.

AH 5997 Seminar Cr. 3
Readings, discussion, and research paper on special topics in art history; topics to be announced in Schedule of Classes. Graduate students undertake research paper in addition to other assignments. Offered Yearly.
Prerequisites: AH 1110 with a minimum grade of C and AH 1120 with a minimum grade of C
Restriction(s): Enrollment is limited to students in the Department of Art and Art History; enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts, Master of Arts or Master of Fine Arts degrees.
Repeatable for 9 Credits

AH 5998 Honors Thesis Cr. 3
Students write a substantial research paper on subject determined by the student in collaboration with his/her professor. Offered for undergraduate credit only. Offered Intermittently.
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment is limited to students with a major in Art History Honors.

AH 7200 Seminar in Greek and Roman Art Cr. 3-6
Topics to be announced in Schedule of Classes . Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students in the Department of Art and Art History; enrollment limited to students in a Master of Arts degree.
Repeatable for 9 Credits

AH 7300 Seminar in Medieval Art Cr. 3-6
Topics to be announced in Schedule of Classes. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students in the Department of Art and Art History; enrollment limited to students in a Master of Arts degree.
Repeatable for 9 Credits

AH 7500 Seminar in Renaissance Art Cr. 3-6
Topics to be announced in Schedule of Classes. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Art History; enrollment limited to students in a Master of Arts degree.
Repeatable for 9 Credits

AH 7700 Seminar in Modern Art Cr. 3
Topics to be announced in Schedule of Classes . Offered Fall, Winter.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students in the Department of Art and Art History; enrollment limited to students in a Master of Arts degree.
Repeatable for 6 Credits

AH 7999 Master's Essay Direction Cr. 1-3
Offered Fall, Winter.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students with a class of Candidate Masters; enrollment is limited to students with a major in Art History; enrollment limited to students in a Master of Arts degree.

AH 8999 Master's Thesis Research and Direction Cr. 1-8
Offered Fall, Winter.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students with a class of Candidate Masters; enrollment is limited to students with a major in Art History; enrollment limited to students in a Master of Arts degree.
Repeatable for 8 Credits

AIA - ART: INTERIOR DESIGN

AIA 1610 Architectural Drafting and Perspective Drawing Cr. 3
Basic architectural drawings: plans, elevations, obliques, sections, details, dimensioning and lettering; hand-drawn and basic CAD techniques; development of perspective presentation drawings. Offered Winter.
Prerequisites: ADR 1050
Course Material Fees: $45

AIA 2600 Interior Design: CAD I Cr. 3
Continuation of computer-aided design. Plans, elevations, sections, details, dimensioning and description. System furniture space planning; Windows-based auto CAD. Offered Fall.
Prerequisites: AIA 1610
Restriction(s): Enrollment is limited to students in the Department of Art and Art History; enrollment limited to students in a Bachelor of Arts or Bachelor of Fine Arts degrees.
Course Material Fees: $45

AIA 2610 Interior Design Studio I Cr. 3
Single family residential/small-scale office. Presentation techniques; introduction to media and methods used in the preparation of presentation boards: layout, selection, rendering, plan, elevation, lettering and verbal presentation. Offered Fall.
Prerequisites: AIA 1610
Restriction(s): Enrollment is limited to students in the Department of Art and Art History; enrollment limited to students in a Bachelor of Arts or Bachelor of Fine Arts degrees.
Course Material Fees: $45

AIA 3610 Interior Design Studio II Cr. 3
Hospitality/restaurant/health care. Continuation of graphic and presentation skill development incorporating plan, elevation, section, detailing, perspective, hand and CAD drawings. Experimentation with lighting, media, board, and verbal presentation. Offered Winter.
Prerequisites: AIA 2610
Restriction(s): Enrollment is limited to students in the Department of Art and Art History; enrollment limited to students in a Bachelor of Arts or Bachelor of Fine Arts degrees.
Course Material Fees: $45

AIA 3620 Interior Design: CAD II Cr. 3
Intermediate-level CAD. Development and creation of construction documents, space planning of interior spaces, and systems layout, using autoCAD drafting techniques in two- and three-dimensional modes. Offered Winter.
Prerequisites: AIA 1610 and AIA 2600 and AIA 2610
Restriction(s): Enrollment is limited to students in the Department of Art and Art History; enrollment limited to students in a Bachelor of Arts or Bachelor of Fine Arts degrees.
Course Material Fees: $50
Repeatable for 12 Credits

AIA 4600 Environmental Design Theory Cr. 3
History of interiors: ergonomic, environmental elements. Introduction to building and barrier-free design codes. Acoustical, HVAC and electrical systems. Offered Fall.
Prerequisites: AIA 2610
Restriction(s): Enrollment is limited to students in the Department of Art and Art History; enrollment limited to students in a Bachelor of Arts or Bachelor of Fine Arts degrees.
Course Material Fees: $35

AIA 4610 Interior Design Studio III Cr. 3
Retail/contract open-office system, medium to large scale, new or adaptive reuse projects. Advanced hand and CAD graphic, presentation skill development, incorporating building and barrier-free codes, HVAC and lighting principles, furniture and equipment specification. Offered Fall.
Prerequisites: AIA 2600 and AIA 3610
Restriction(s): Enrollment is limited to students in the Department of Art and Art History; enrollment limited to students in a Bachelor of Arts or Bachelor of Fine Arts degrees.
Course Material Fees: $40

AIA 4620 Interior Perspective and Illustration Cr. 3
Visual perspective presentation techniques, including selection, construction, illustration of interior designs. Basic mechanical perspective layout and delineation techniques: pencil, pen, color marker and color pencil to relate effects of texture, volume, and light of interior space. Offered Fall.
Prerequisites: AIA 1610 and AIA 2610
Restriction(s): Enrollment is limited to students in the Department of Art and Art History; enrollment limited to students in a Bachelor of Arts or Bachelor of Fine Arts degrees.
Course Material Fees: $45

AIA 4990 Directed Study Cr. 2-4
Offered Fall, Winter.
Restriction(s): Enrollment is limited to students in the Department of Art and Art History; enrollment limited to students in a Bachelor of Arts or Bachelor of Fine Arts degrees.
Course Material Fees: $45
Repeatable for 6 Credits

AIA 5010 Furniture/Product Workshop Cr. 3
History, ergonomic and design development of furniture and product design. Projects evolve from hand and CAD drawings to scaled models of furniture and product designs. Offered Fall.
Prerequisites: AIA 1610 and AIA 2610 and AIA 5610
Restriction(s): Enrollment is limited to students in the Department of Art and Art History; enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts or Master of Arts degrees.
Course Material Fees: $55
Repeatable for 9 Credits

AIA 5610 Interior Materials and Systems Cr. 3
Estimating, specifying, and the techniques used in the application of materials and systems used in interior design. Lectures, guest speakers, and field trips. Offered Winter.
Restriction(s): Enrollment is limited to students in the Department of Art and Art History; enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts or Master of Arts degrees.
Course Material Fees: $40

AIA 5620 Building Construction Systems in Architecture I Cr. 3
Residential and commercial construction systems incorporating governmental and building codes; site and foundation to roof systems; small-scale hand and CAD documentation of architectural details. Offered Fall.
Prerequisites: AIA 2610 and AIA 3610
Restriction(s): Enrollment is limited to students in the Department of Art and Art History; enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts or Master of Arts degrees.
Course Material Fees: $45

AIA 5630 Interior Lighting Design and Application Cr. 3
Lighting sources, fixtures, manufacturer's lighting system and application to interior spaces. Basic lighting footcandle calculations; layouts and psychology of lighting description to be applied in a final project. Offered Winter.
Prerequisites: AIA 3610 and AIA 4610
Restriction(s): Enrollment is limited to students in the Department of Art and Art History; enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts or Master of Arts degrees.
Course Material Fees: $40

AIA 5640 Building Construction Systems in Architecture II Cr. 3
Development of architectural construction documents: working drawings and written specifications of commercial interior space; plan, elevation, section, details and perspective through hand and CAD documentation. Offered Winter.
Prerequisites: AIA 2600 and AIA 4600 and AIA 4610 and AIA 5620
Restriction(s): Enrollment is limited to students in the Department of Art and Art History; enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts or Master of Arts degrees.
Course Material Fees: $60

AIA 5660 Supervised Field Experience Cr. 3
Supervised field study experience designed to correlate classroom theory with professional practice. Offered Every Term.
Restriction(s): Enrollment is limited to students with a major in Art or Art Honors; enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts or Master of Arts degrees.
Course Material Fees: $35
Repeatable for 6 Credits

AIA 5991 Directed Projects: Interior Design Cr. 3-6
Individual problems. Offered Fall, Winter.
Restriction(s): Enrollment is limited to students in the Department of Art and Art History; enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts or Master of Arts degrees.
Course Material Fees: $60
Repeatable for 9 Credits

AIA 5997 Senior Seminar Cr. 3
Satisfies General Education Requirement: Writing Intensive Competency
Investigation of designers, styles, and periods of interior design through charettes and documentation. Resume and portfolio development and review; writing of intensive research paper. Offered Winter.
Restriction(s): Enrollment is limited to students in the Department of Art and Art History; enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts or Master of Arts degrees.
Course Material Fees: $60

AIA 6610 Interior Design Studio IV Cr. 3
Large-scale new or adaptive re-use: office, hospitality, health-care or retail interior spaces. Professional hand and CAD graphic and skill development. Integration of codes, ADA, human factors, HVAC and lighting principles, furniture and equipment specification related to specific environment. Offered Winter.
Prerequisites: AIA 4610 and AIA 5640
Restriction(s): Enrollment is limited to students in the Department of Art and Art History; enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts or Master of Arts degrees.
Course Material Fees: $60

AIA 6650 Business Practicum Cr. 2
Examination of different types of business formations and their characteristics; professional practices and procedures, professional ethics, contemporary topics in interior design practice. Offered Fall.
Prerequisites: AIA 4610
Restriction(s): Enrollment is limited to students in the Department of Art and Art History; enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts or Master of Arts degrees.
Course Material Fees: $60

AIA 7990 Directed Study Cr. 1-4
Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in a Master of Arts degree.
Course Material Fees: $60

AID - ART: INDUSTRIAL DESIGN

AID 3200 Ethnographic Research Methods for Designers Cr. 3
Introduction to a set of theoretical and methodological approaches stemming from the field of anthropology. Students utilize these approaches to enrich and inform their design processes from conceptual creation, to ideation and design development, to user testing. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Undergraduate level students.

AID 3300 Introduction to Industrial Design Cr. 3
Introduction to fundamental skills necessary for the practice of industrial design. Two-dimensional presentation techniques are developed in first half of semester; second portion consists of exercises in problem-solving methodology. Offered Fall, Winter.
Prerequisites: ACO 1200 and ADR 1050
Course Material Fees: $20
Repeatable for 6 Credits

AID 3310 Presentation Cr. 3
Two dimensional visualization, monochromatic and polychromatic sketch techniques using a variety of traditional media. Offered Fall, Winter.
Prerequisites: ACO 1200 and ADR 1050
Repeatable for 9 Credits

AID 4300 Product Design Engineering Cr. 3
Students build on basic skills in projects exploring conceptual problem-solving in two dimensions. Offered Fall, Winter.
Restriction(s): Enrollment limited to students in the College of Engineering or Fine, Performing & Comm. Arts.
Repeatable for 6 Credits

AID 4600 Transportation Design/Engineering Cr. 3
Conceptual projects related to transportation design, utilizing skills developed in AID 4300. Offered Winter.
Prerequisites: AID 4300
Restriction(s): Enrollment limited to students in the College of Engineering.
Course Material Fees: $20

AID 5300 Advanced Studio/Product Cr. 3
Advanced techniques in presentation of design solutions. Students build upon their ability to communicate two-dimensionally; introduction of digital manipulation and creation software. Offered Fall, Winter.
Prerequisites: AID 3300
Restriction(s): Enrollment is limited to students in the Department of Art and Art History; enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts or Master of Arts degrees.
Course Material Fees: $20
Repeatable for 15 Credits

AID 5302 Advanced Studio/Batch Production Cr. 3
In this studio class students will learn about techniques of batch limited production of design objects and aspects of entrepreneurship. Students will design, produce, package, and market a simple consumer object. Offered Fall, Winter.
Prerequisites: AID 3300
Course Material Fees: $20
Repeatable for 6 Credits

AID 5310 Advanced Presentation Cr. 3
Advanced techniques in the presentation of design solutions. Students build on their ability to communicate two-dimensionally, with introduction of digital manipulation and creation software. Offered Fall.
Prerequisites: AID 3310
Restriction(s): Enrollment is limited to students in the Department of Art and Art History; enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts or Master of Arts degrees.
Course Material Fees: $100
Repeatable for 9 Credits

AID 5330 3-D Modeling Cr. 3
Principles of three-dimensional modeling. Surface development, rendering, and creation of virtual environments. Offered Fall.
Prerequisites: AID 3300
Restriction(s): Enrollment is limited to students in the Department of Art and Art History; enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts or Master of Arts degrees.
Course Material Fees: $100
Repeatable for 9 Credits

AID 5997 Senior Seminar Cr. 3
Satisfies General Education Requirement: Writing Intensive Competency Seminar on contemporary issues in industrial design including professional concerns in transportation and product design, presentation, and production. Satisfies the General Education Writing Intensive Course in the Major requirement. Offered Every Other Year.
Restriction(s): Enrollment limited to students with a class of Senior; enrollment is limited to students in the Department of Art and Art History; enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts or Master of Arts degrees.

AID 6300 Advanced Studio: Transportation Cr. 3
Form and proportion studies. Development of sketch techniques for communicating the complex form of the automotive body. Taught by professional automotive designers. Offered Fall, Winter.
Prerequisites: AID 3300
Restriction(s): Enrollment is limited to students in the Department of Art and Art History; enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts or Master of Arts degrees.
Course Material Fees: $20
Repeatable for 9 Credits

AID 6301 Design for Urban Mobility Cr. 3
Considers broad questions of mobility and how design can enable and support mobility through urban space. Students will engage in projects that address these questions in different ways including products, spaces, experiances, and other forms of design interventions. Offered Fall, Winter.
Prerequisites: AID 3300
Course Material Fees: $20
Repeatable for 6 Credits

AID 6310 Advanced Studio/Exhibit Cr. 3
Advanced design concepts in exhibit design. Project planning, ideas of brand imaging, phenomenological notions of the spatial experience. Offered Fall.
Prerequisites: AID 5300
Restriction(s): Enrollment is limited to students in the Department of Art and Art History; enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts or Master of Arts degrees.
Course Material Fees: $20
Repeatable for 9 Credits

AID 7300 Graduate Industrial Design Cr. 3-9
Individual problems in industrial design. Offered Fall, Winter.
Prerequisites: AID 5300 or AID 6300
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in a Master of Arts degree.
Course Material Fees: $20
Repeatable for 24 Credits

AME - ART: METALSMITHING

AME 2600 Introduction to Jewelry and Metalsmithing Cr. 3
Basic skills: sawing, filing, drilling, sanding, polishing, creating textures on metal, riveting, soldering, and bezel setting of stones. Creation of jewelry and small functional objects. Offered Every Term.
Course Material Fees: $75

AME 2650 Blacksmithing I Cr. 3
This course is an introduction to blacksmithing skills and techniques. The history of blacksmithing and its contemporary practices will be covered as a way to understand different time periods and varying cultural approaches. Hands on applications and material usage will be covered to create objects, tools and artworks dependent on forging. Offered Every Other Year.
Course Material Fees: $75

AME 3600 Intermediate Jewelry I Cr. 3
Lost-wax casting and mold-making. Creating, preparing and casting into metal of wax models. Vulcanized rubber mold-making. Commercial jewelry techniques. Offered Every Term.
Prerequisites: AME 2600
Restriction(s): Enrollment is limited to students in the Department of Art and Art History; enrollment limited to students in a Bachelor of Arts or Bachelor of Fine Arts degrees.
Course Material Fees: $90

AME 3601 Intermediate Jewelry II Cr. 3
Advanced metal fabrication and surface treatment. Topics include: stone setting techniques, acid etching, granulation, keum boo, patination, hinge mechanisms and more complex soldering techniques. Offered Fall, Winter.
Prerequisites: AME 3600
Restriction(s): Enrollment is limited to students in the Department of Art and Art History; enrollment limited to students in a Bachelor of Arts or Bachelor of Fine Arts degrees.
Course Material Fees: $90

AME 3650 Blacksmithing II Cr. 3
This course is intended for students who have already acquired basic blacksmithing skills for ferrous and non-ferrous metals. Using complex hand-skill techniques and applications of mechanical tooling to achieve predictable results, students will develop stronger visual literacy of blacksmithing of both its contemporary extensions of utility and conceptual work. Through exploring innovation in culture and its material usage for ornamentation, an ethos will be stressed. Tool creation and use through hot forging, forge welding, layering material, riveting and basic joinery will be emphasized. Offered Every Other Fall.
Prerequisite: AME 2600 or AME 2650
Course Material Fees: $90
Repeatable for 6 Credits

AME 4600 Metalsmithing I Cr. 3
Utilizing plastic qualities of metal to generate high relief forms. Techniques include: raising and sinking, anticlastic and synclastic raising, nonferrous and ferrous forging. How metals may be stretched to create forms with a high degree of volume. Offered Fall, Winter.
Prerequisites: AME 2600
Restriction(s): Enrollment is limited to students in the Department of Art and Art History; enrollment limited to students in a Bachelor of Arts or Bachelor of Fine Arts degrees.
Course Material Fees: $90
Repeatable for 6 Credits

AME 4601 Metalsmithing II Cr. 3
Utilizing plastic qualities of metal to generate high relief forms. Techniques include: raising and sinking, anticlastic and synclastic raising, nonferrous and ferrous forging. How metals may be stretched to create forms with a high degree of volume. Offered Fall, Winter.
Prerequisites: AME 4600
Restriction(s): Enrollment is limited to students in the Department of Art and Art History; enrollment limited to students in a Bachelor of Arts or Bachelor of Fine Arts degrees.
Course Material Fees: $90
Repeatable for 6 Credits

AME 4650 Blacksmithing III Cr. 3
Builds upon technical and conceptual extensions of blacksmithing for commission work, art installations, decorative ornamentation and creative forms using ferrous and non-ferrous metals. Advanced blacksmithing processes will be emphasized through the use of a diverse cross-section of skills ranging from hand work, machine production and the use of digital applications. Processes and equipment learned include: CNC plasma cutter, laser cutters for creation of dies, milling machines, lathes, CNC milling, use of dies for hot forming with a hydraulic press and power hammer. Offered Every Other Winter.
Prerequisite: AME 2600 and AME 2650
Course Material Fees: $90
Repeatable for 9 Credits

AME 5600 Advanced Jewelry and Metalsmithing Cr. 3
Intellectual and conceptual nature of student's artwork; discussion and analysis. Methods of criticism. Offered Fall, Winter.
Prerequisites: AME 3601
Restriction(s): Enrollment is limited to students in the Department of Art and Art History; enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts, Master of Arts or Master of Fine Arts degrees.
Course Material Fees: $90
Repeatable for 6 Credits

AME 5860 Directed Projects: Metalsmithing Cr. 3-6
Individual problems. Offered Fall, Winter.
Restriction(s): Enrollment is limited to students in the Department of Art and Art History; enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts, Master of Arts or Master of Fine Arts degrees.
Repeatable for 998.99 Credits

AME 7600 Graduate Study in Metal Arts Cr. 3
Individual problems. Directed study and project development in metal arts. Offered Fall, Winter.
Prerequisites: AME 5600
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students in the Department of Art and Art History; enrollment limited to students in a Master of Arts or Master of Fine Arts degrees.
Course Material Fees: $90
Repeatable for 9 Credits

AME 8860 MFA Studio: Metal Arts Cr. 6-9
Extended problems in metalsmithing; individual research with eighteen to twenty-seven hours of laboratory per week. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students in the Department of Art and Art History; enrollment limited to students in a Master of Fine Arts degree.
Repeatable for 36 Credits

AN - ANESTHESIA

AN 7010 Advanced Health Assessment and Clinical Diagnosis Cr. 3
Advanced systematic focus on health assessment, anatomical and physical limitations, and impact on anesthesia practice. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Nurse Anesthesia Practice.
Course Material Fees: $10

AN 7020 Clinical Anesthesia Practicum II Cr. 2
Continuation of AN 7010. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

AN 7030 Clinical Anesthesia Practicum III Cr. 2
Continuation of AN 7020. Offered Spring/Summer.
Prerequisites: AN 7020
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

AN 7040 Clinical Anesthesia Practicum IV Cr. 3
Continuation of AN 7030. Offered Fall.
Prerequisites: AN 7030
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

AN 7050 Clinical Anesthesia Practicum V Cr. 3
Continuation of AN 7040. Offered Winter.
Prerequisites: AN 7040
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

AN 7060 Clinical Anesthesia Practicum VI Cr. 2
Continuation of AN 7050. Offered Spring/Summer.
Prerequisites: AN 7050
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

AN 7070 Clinical Practice I Cr. 2
Outpatient anesthesia practice; focus on airway management. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.

AN 7080 Clinical Practicum VIII Cr. 3
Clinical experiences at diverse clinical settings and varying levels of patient acuity. Offered Winter.
Prerequisite: AN 7070 with a minimum grade of C
Restriction(s): Enrollment is limited to students with a major in Nurse Anesthesia Practice.

AN 7090 Clinical Practice III Cr. 1
Clinical experience with complex cardiac diseases requiring thoracic and cardiopulmonary bypass. Offered Spring/Summer.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Doctor of Nur Anesthesia Pract program.

AN 7100 Advanced Pharmacology I Cr. 3
Prepares students with in-depth knowledge and understanding of the Pharmacokinetics and Pharmacodynamics for the nurse anesthetist. Offered Fall.
Prerequisite: AN 7010 with a minimum grade of C
Restriction(s): Enrollment is limited to students with a major in Nurse Anesthesia Practice.
Course Material Fees: $15

AN 7110 Advanced Pharmacology II Cr. 3
Prepares students with in-depth knowledge and understanding of the Pharmacokinetics and Pharmacodynamics for the anesthetist. Offered Winter.
Prerequisite: AN 7100 with a minimum grade of C
Restriction(s): Enrollment is limited to students with a major in Nurse Anesthesia Practice.
Course Material Fees: $15

AN 7120 Advanced Pharmacology of Anesthesia Cr. 2
General qualitative and quantitative aspects of pharmacology. Interaction and kinetics of pharmacologic agents and their relationship to anesthetic practice. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

AN 7150 Principles of Anesthesia I Cr. 4
Principles and usage of all anesthesia equipment including electronic instrumentation. Theoretical exploration of various techniques of anesthesia. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.
Course Material Fees: $15

AN 7160 Principles of Anesthesia II Cr. 3
Advanced knowledge in application and use of modern anesthesia monitoring technology. Offered Winter.
Prerequisites: AN 7150
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.
Course Material Fees: $15

AN 7170 Principles of Anesthesia III Cr. 2
Continuation of AN 7160. Offered Spring/Summer.
Prerequisites: AN 7150
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.
Course Material Fees: $10

AN 7180 Electrocardiography in Anesthesia Practice Cr. 1
Background for monitoring, diagnosing, and treating cardiac arrhythmias in the perioperative period. Working background in fundamentals of 12-lead ECG interpretation; its application in the perioperative period. Offered Winter.
Prerequisites: AN 7150
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences; enrollment limited to students in the MS in Anesthesia program.
Course Material Fees: $12.5

AN 7181 Advanced Principles of Anesthesia IV Cr. 3
Continuation of previously learned concepts and principles of safe anesthesia practice in the treatment and management of multiple co-morbidities and disease processes. Offered Winter.
Prerequisite: AN 7170 with a minimum grade of C
Restriction(s): Enrollment is limited to students with a major in Nurse Anesthesia Practice.

AN 7190 Advanced Cardiovascular Patho-physiology and EKG Cr. 1
Advanced cardiovascular pathophysiology, assessing and diagnosing cardiac dysfunctions, and integration of appropriate clinical interventions in the anesthetic management plan of care. Offered Fall.
Prerequisites: AN 7180 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.
Course Material Fees: $12.5

AN 7220 Advanced Physiology Cr. 4
Examine normal physiology with emphasis on the respiratory, renal, cardiovascular,neurological, endocrine, liver functions and and associated disease. Offered Winter.
Restriction(s): Enrollment is limited to students with a major in Nurse Anesthesia Practice.

AN 7230 Advanced Physiology II Cr. 3
Advanced knowledge in physiology and related physiological mechanisms governing, respiratory, cardiovascular, and the renal systems and as they relate to anesthesia. Offered Winter.
Prerequisite: AN 7220 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Anesthesia or Nurse Anesthesia Practice.

AN 7240 Advanced Physiology and Pathophysiology I Cr. 3
Advanced knowledge in physiology; in-depth analysis of disease processes; correlation of pathophysiology, pharmacology, and advanced principles of anesthesia care. Offered Spring/Summer.
Restriction(s): Enrollment is limited to students with a major in Nurse Anesthesia Practice.
Course Material Fees: $10

AN 7241 Advanced Physiology and Pathophysiology II Cr. 3
An in-depth assessment human physiology, and disease processes to include analysis of cellular structure and functions of the total body system. Offered Winter.
Prerequisite: AN 7240 with a minimum grade of C
Restriction(s): Enrollment is limited to students with a major in Nurse Anesthesia Practice.

AN 7500 Chemistry and Physics for the Anesthetist Cr. 2
Analysis and principles of chemistry and physics as applied to anesthesia. Offered Fall.
Restriction(s): Enrollment is limited to students with a major in Nurse Anesthesia Practice.
Course Material Fees: $20

AN 7590 Advanced Anatomy for Nurse Anesthetists Cr. 4
Structural and functional aspects of the human body; relationships to nurse anesthesia practice. Study of regions in which anesthesia may be induced. Offered Spring/Summer.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.
Course Material Fees: $400

AN 7600 Regional Anesthesia Cr. 2
Review of the anatomy and physiology of the spinal cord and peripheral nerves and the pharmacology of local anesthetic agents. Techniques of pain management administration and management of spinal/epidural and peripheral regional anesthetics. Offered Spring/Summer.
Prerequisite: AN 7590 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.
Course Material Fees: $20

AN 7620 Pulmonary Mechanics and Anesthesia Implications Cr. 2
Advanced evaluation of cardiopulmonary/respiratory complication. Clinical anesthesia care. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

AN 7690 Advanced Clinical Anesthesia Practice Review I Cr. 1
Use of theoretical concepts and advanced clinical principles to develop the art and science of practice with emphasis on individualizing care, in addition to board preparation. Offered Winter.
Prerequisites: AN 7170 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.
Course Material Fees: $15

AN 7700 Advanced Clinical Anesthesia Practice and Review II Cr. 1
Use of theoretical concepts and advanced clinical principles in perfecting the art and science of anesthesia practice with emphasis on preparation for board examination. Offered Winter.
Prerequisites: AN 7170 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.
Course Material Fees: $10

AN 7730 Process of Teaching Cr. 2
Advanced teaching and learning concepts. Understanding diversity in the classroom, and learning styles. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $20

AN 7780 Professional Dimensions Cr. 3
Understanding the history and professional organization roles in ensuring standards of practice and commitment to society. Offered Fall.
Restriction(s): Enrollment is limited to students with a major in Nurse Anesthesia Practice.
Course Material Fees: $15

AN 7800 Pain Management for Nurse Anesthetists Cr. 1
Regional techniques and pharmacological interventions to manage acute and chronic pain. Offered Spring/Summer.
Prerequisites: AN 7600 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

AN 7880 Anesthesia Seminar Cr. 1
Current developments in concepts and theories of nurse anesthesia. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.
Repeatable for 5 Credits

AN 7885 Research Design for Anesthesia Cr. 1
Research methodologies, including quantitative and qualitative statistical techniques. Emphasis on designing, implementing, and evaluating health care research. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

AN 7890 Terminal Project Cr. 1
Finalization of research; preparation for poster submission, publication and presentation of research. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.
Course Material Fees: $20

AN 7891 Advanced Clinical Application I Cr. 2
This is designed for comprehensive assessments of students learned scientific, practical and technical knowledge and readiness for the National Board Examination. Offered Winter.
Prerequisite: AN 7181 with a minimum grade of C and AN 7241 with a minimum grade of C
Restriction(s): Enrollment is limited to students with a major in Nurse Anesthesia Practice.

AN 7900 Advanced Pediatric Topics Cr. 2
Detailed advanced lectures in specific pediatric topics. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

AN 7910 Special Topics in Pediatric Anesthesia Cr. 2
Common pediatric problems; in-depth knowledge on neonatal anesthesia. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

AN 7920 Case Presentations Cr. 2
Anatomy and physiology of various diseases including principles of anesthetic management. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

AN 8000 Capstone Preparation I Cr. 1
Begin fundamental strategies for research development toward applicable clinical doctoral studies. Offered Winter.
Prerequisite: AN 7890 with a minimum grade of C
Restriction(s): Enrollment is limited to students with a major in Nurse Anesthesia Practice.

AN 8001 Capstone Preparation II Cr. 1
Develop and present appropriate protocol for timely research process. Offered Spring/Summer.
Prerequisite: AN 8000 with a minimum grade of C
Restriction(s): Enrollment is limited to students with a major, minor, or concentration in Nurse Anesthesia Practice.

AN 8002 Capstone Preparation III Cr. 1
Develop and present appropriate protocol for timely research. Offered Fall.
Prerequisite: AN 8001 with a minimum grade of C
Restriction(s): Enrollment is limited to students with a major, minor, or concentration in Nurse Anesthesia Practice.

AN 8003 Capstone Completion I Cr. 1
Strategies for data analysis and methodology of research findings. Offered Winter.
Prerequisite: AN 8002 with a minimum grade of C
Restriction(s): Enrollment is limited to students with a major, minor, or concentration in Nurse Anesthesia Practice.

AN 8004 Capstone Completion II Cr. 1
Strategies for data analysis and methodology to present findings. Offered Spring/Summer.
Prerequisite: AN 8003 with a minimum grade of C
Restriction(s): Enrollment is limited to students with a major, minor, or concentration in Nurse Anesthesia Practice.

ANA - ANATOMY AND CELL BIOLOGY

ANA 6050 Biology of the Eye Cr. 3
Introduction to biology of eye structure/function, and to causes and clinical treatments of eye-related disorders and diseases. Offered for undergraduate credit only. Offered Yearly.
Restriction(s): Enrollment is limited to Undergraduate level students.
Course Material Fees: $25
Equivalent: BIO 6055, PYC 6050

ANA 7010 Human Gross Anatomy Cr. 8
Lectures and dissection of limbs, back, thorax, abdomen, head and neck, pelvis and perineum. Written and practical examinations. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Anatomy & Cell Biology.

ANA 7030 Human Microscopic Anatomy Cr. 4
The microscopic structure of tissues and organs. Lectures and laboratory study. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Anatomy & Cell Biology or Pathology.

ANA 7055 Biology of the Eye Cr. 3
Integrated introduction to basic biological structure/function of the eye; causes and clinical treatments of eye-related disorders and diseases. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: BIO 7055

ANA 7065 Mechanisms of Ocular Disease I Cr. 2
Lectures and readings on mechanisms and current treatments for diseases of the anterior segment of the eye. Offered Winter.
Prerequisite: ANA 7055 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

ANA 7075 Mechanisms of Ocular Disease II Cr. 2
Lectures and readings on mechanisms and current treatments for diseases of the posterior segment of the eye. Offered Fall.
Prerequisite: ANA 7055 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

ANA 7130 Neuroanatomy Cr. 4
Lecture and laboratory study of the nervous system. Offered Winter, Spring/Summer.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Anatomy & Cell Biology.

ANA 7260 Special Dissection Cr. 2-10
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Anatomy & Cell Biology.
Repeatable for 20 Credits

ANA 7270 Special Projects in Anatomy Cr. 2-10
Research rotations leading to selection of permanent advisor. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Anatomy & Cell Biology.

ANA 7890 Seminar Cr. 1
Biweekly departmental seminar. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Anatomy & Cell Biology.
Repeatable for 4 Credits

ANA 7996 Research Cr. 1-15
Research under direction of permanent advisor. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Anatomy & Cell Biology.
Repeatable for 30 Credits

ANA 8999 Master's Thesis Research and Direction Cr. 1-8
Original research leading to M.S. degree under Plan A. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students with a class of Candidate Masters; enrollment is limited to students with a major in Anatomy & Cell Biology.
Repeatable for 8 Credits

ANA 9990 Pre-Doctoral Candidacy Research Cr. 1-8
Research in preparation for doctoral dissertation. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 12 Credits

ANA 9991 Doctoral Candidate Status I: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students with a class of Doctoral Candidate.

ANA 9992 Doctoral Candidate Status II: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: ANA 9991 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

ANA 9993 Doctoral Candidate Status III: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: ANA 9992 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

ANA 9994 Doctoral Candidate Status IV: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: ANA 9993 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

ANA 9995 Candidate Maintenance Status: Doctoral Dissertation Research and Direction Cr. 0
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $370.26
Repeatable for 0 Credits

ANT - ANTHROPOLOGY

ANT 1100 Introduction to Anthropology Cr. 3
Satisfies General Education Requirement: Social Inquiry, Social Sciences
Study of humanity, past and present: cultural diversity and change, human evolution, biological variability, archaeology, ethnography, language, and contemporary uses of anthropology. Offered Every Term.

ANT 2020 Global Detroit Cr. 3
Satisfies General Education Requirement: Diversity Equity Incl Inquiry
Detroit has been a meeting place for people from around the world for centuries. This course explores the global movements of peoples, ideas, and money that made the city what it is today. It will draw upon the tools and methods of anthropology to examine periods when the city's multicultural character has been viewed as a source of strength, and at other times when diversity has been perceived as source of discord and social problems. Students will be expected to participate in fieldtrips and other off campus activities. Offered Yearly.

ANT 2110 Introduction to Physical Anthropology Cr. 3
Satisfies General Education Requirement: Life Sciences, Natural Scientific Inquiry
Role of hereditary and environmental factors, human genetics, meaning of ""race"" and racial classifications, fossil records, non-human primate behavior and evolution. Offered Every Term.

ANT 2400 Food and Culture Cr. 3
Satisfies General Education Requirement: Cultural Inquiry, Global Learning Inquiry
Uses food and foodways as a lens to understand social, cultural, political, and economic issues around the world. Lectures draw from the interdisciplinary field of food studies that includes anthropological and historical texts and films. Topics include commensality, globalization, nationalism, food taboos, power, memory, etiquettes, food justice, and food and health. Includes field trips to local food places in Metro Detroit. Offered Intermittently.

ANT 2500 Archaeology of the Great Lakes Cr. 4
Introduction to Native cultures and archaeology of Michigan and the Great Lakes region, from the first peopling of the region through early historic times; changing patterns of adaptation to the ecology of the Great Lakes region; focus on ancient technologies and material culture, social organization, settlement patterns, economic strategies, and political formations. Offered Intermittently.
Course Material Fees: $25

ANT 3020 Introduction to Archaeology Cr. 3
Introduction to the basic principles and science of archaeology. Case studies from all time periods and regions worldwide. Examination of the intersection of archaeology with other disciplines (history, geology, criminal justice, chemistry). Offered Fall.
Restriction(s): Enrollment is limited to Undergraduate level students.

ANT 3061 Oral History in Middle Eastern Tradition Cr. 3
Methodologies, techniques and applications of oral history used as tools to investigate modern social history of Middle Eastern societies. Offered Every Other Year.
Equivalent: NE 3061

ANT 3100 World Cultures Cr. 3
Satisfies General Education Requirement: Cultural Inquiry, Global Learning Inquiry
Human societies exhibit tremendous diversity. How and why do we differ? What do these differences mean in today's world? Explore, contrast, compare, and understand the differences between and within societies such as those of Amazon rain forest, China, Japan, Alaska, India, the United States, and France. Special attention will be focused on how anthropologists think about and represent cultural differences through ethnographic writing, film, and other media. Offered Fall.

ANT 3150 Anthropology of Business Cr. 3-4
Satisfies General Education Requirement: Foreign Culture, Global Learning Inquiry
Differences between American culture/business practice and the culture/business practice of other countries: assumptions, world view and family structure, organization and language. Offered Every Term.

ANT 3200 Lost Cities and Ancient Civilizations Cr. 3
Satisfies General Education Requirement: Global Learning Inquiry, Historical Studies, Social Inquiry
Early civilizations that developed in different parts of the world in comparative perspective. Hypotheses to explain rise and fall of civilizations, in context of ancient cultures. Basics of archaeology: how facts are formed; meaning of ""civilization."" How understanding of the past shapes understanding of the present. Geared toward the non-major. Offered Every Term.

ANT 3220 The Inca and their Ancestors Cr. 3
Introduction to precolumbian civilizations of South America. Archaeological and ethnohistorical data on ancient cultures; foundations of Inca civilization; major cultures from different regions and periods. Offered Intermittently.
Prerequisites: ANT 2100 with a minimum grade of D- or ANT 3200 with a minimum grade of D-

ANT 3310 Language and Culture Cr. 3
An introduction to linguistic anthropology. Using comparative approaches to language and culture across time and space, explore variation and change, cognitive dimensions of language, language evolution, linguistic myths, and the use of language in social practice. Offered Fall.
Prerequisites: ANT 2100 with a minimum grade of D- or LIN 2720 with a minimum grade of D-
Restriction(s): Enrollment is limited to Undergraduate level students.
Equivalent: LIN 3310

ANT 3400 Introduction to Medical Anthropology Cr. 3
Satisfies General Education Requirement: Social Inquiry
Introduction to Medical Anthropology uses a biosocial, cross-cultural approach to explore the complexities of health and medicine today – in the United States and elsewhere. It pays special attention to health disparities and how they are experienced by various social groups. This course will expose students to a number of cultural systems of health and illness from around the world and, describe the behaviors, practices, institutions, and/or systems that define them. In keeping with an anthropological approach, it will treat western biomedicine as one of many cultural systems of explaining and addressing illness. Offered Intermittently.

ANT 3410 Global Health Cr. 3
Satisfies General Education Requirement: Global Learning Inquiry, Social Inquiry, Social Sciences
Introduces students to problems of disease and disorder worldwide and looks at various efforts to define and address these problems through a social science perspective. Offered Winter.
Equivalent: GLS 3410, PH 3410

ANT 3520 Understanding Africa: Past, Present and Future Cr. 3
Satisfies General Education Requirement: Diversity Equity Incl Inquiry, Foreign Culture, Global Learning Inquiry
In-depth knowledge of Africa through the study of its physiography, prehistory and history, social institutions, and social changes within a global context. Offered Intermittently.

ANT 3530 Native Americans Cr. 3
Satisfies General Education Requirement: Diversity Equity Incl Inquiry
Examines the way that academic disciplines and individual scholars have examined American Indian and Native cultures, traditions and histories. The course focuses on migration, colonization, warfare, Native sovereignty and the contemporary experience to learn about the distinctive perspectives of the indigenous peoples of North America. Examines (scientific and indigenous) accounts of the origin of Native American cultures, their interaction in pre-Contact times, survival and persistence during European conquest and colonization and the continuing struggle within dominant North American society for equity, justice and inclusion. Offered Intermittently.

ANT 3540 Cultures and Societies of Latin America Cr. 3
Satisfies General Education Requirement: Diversity Equity Incl Inquiry, Foreign Culture, Global Learning Inquiry
Latin American social structures and cultural variation, history, and relationship to the United States. Themes include class, race, ethnicity, gender, religion, globalization, and immigration to the United States. Offered Intermittently.

ANT 3550 Arab Society in Transition Cr. 3
Satisfies General Education Requirement: Diversity Equity Incl Inquiry, Foreign Culture, Global Learning Inquiry
Distinctive social and cultural institutions and processes of change in the Arab Middle East. Regional variations: background and discussion of current political and economic systems and their relationship to international systems. Offered Intermittently.
Equivalent: NE 3550

ANT 3560 World's Religions Cr. 3
Satisfies General Education Requirement: Diversity Equity Incl Inquiry, Global Learning Inquiry
Explores the nature, dynamism, similarities and differences of religions in an anthropological and cross-cultural perspective. Offered Intermittently.
Prerequisite: ANT 2100 with a minimum grade of D-

ANT 3600 Topics in Anthropology Cr. 3
Selected topics or emerging fields in any of the four anthropology subfields (cultural; physical; archaeology; linguistics). Topics to be announced in Schedule of Classes. Offered Intermittently.
Prerequisites: ANT 2100 with a minimum grade of D-

ANT 3700 Globalization: Theories, Practices, Implications Cr. 3
Satisfies General Education Requirement: Global Learning Inquiry, Social Inquiry, Social Sciences
Students develop analytical tools for appraising processes of globalization; acquire a familiarity with the current topical concerns of global studies; and examine economic, political, and cultural approaches to globalization. Offered Fall, Winter.
Equivalent: GLS 3700

ANT 3990 Directed Study Cr. 2-6
Offered Every Term.
Prerequisites: ANT 1000-6XXX with a minimum grade of B
Repeatable for 6 Credits

ANT 4993 History Communication Cr. 3
This course examines the challenges associated with communicating about the past in today's media-saturated environment. Case studies include analysis of communication surrounding controversial historical issues such as slavery and race, to the examination of successful history communicators operating in various media. An important sub-theme focuses on best practices and ethics when it comes to communicating history to non-experts through emerging media. Students also learn how to "economize" the history communicator skillset for the workplace. Offered Fall.
Equivalent: HIS 4993

ANT 4999 Honors Research and Thesis Cr. 3-6
Research and thesis to be completed under the direction of a faculty member whose expertise includes the student's area of interest. Advisor and a second reader will read the completed thesis. Offered Every Term.

ANT 5060 Urban Anthropology Cr. 3
Social-cultural effects of urbanization from a cross-cultural perspective with emphasis on the developing area of the world. The process of urbanization; the anthropological approach in the area of urban studies. Offered Yearly.
Prerequisites: ANT 2100 with a minimum grade of D-

ANT 5140 Biology and Culture Cr. 3
Interrelationships between the cultural and biological aspects of humans; human genetic variability, human physiological plasticity and culture as associated mechanisms by which humans adapt to environmental stress. Offered Fall.
Prerequisites: ANT 2100 with a minimum grade of D- or ANT 2110 with a minimum grade of D-

ANT 5165 Shop 'Til You Drop: Consumer Society and Culture Cr. 3
Why do we want things that we don't need? Are we bound to consumerism in the global age? This course offers an overview of consumer society and examines consumption practices cross-culturally from an anthropological perspective. Offered Every Other Year.

ANT 5170 Political Anthropology Cr. 3
Ethnographic and comparative study of power, politics, and political organizations in non-state and state societies and in the colonial encounter; evolutionary, functionalist, practice-oriented, Marxist, feminist, and Foucauldian approaches to the study of power. Offered Intermittently.
Prerequisites: ANT 2100 with a minimum grade of D-

ANT 5180 Forensic Anthropology Cr. 3
Introductory survey of the natural, medical, and behavioral sciences with regard to forensic applications. Topics may include: toxicology, forensic pathology, fingerprints, ballistics, analysis of the human skeleton, body fluid identification. Offered Intermittently.
Prerequisites: CRJ 1010 with a minimum grade of D- or ANT 2110 with a minimum grade of D-

ANT 5210 Anthropological Methods Cr. 4
Intensive introduction to research methods, techniques and issues in anthropology. Students engage in a research experience supervised by the instructor, write a field journal, and complete a final exam. Exercises focus on data collection, data management, and data analysis. Techniques include participant observation, fieldnotes, and interviewing. Students learn how to use software packages employed by anthropological researchers in the computer lab. Offered Fall, Winter.
Prerequisites: ANT 2100 with a minimum grade of D-

ANT 5240 Cross Cultural Study of Gender Cr. 3
Evolutionary and cultural bases of gender roles using a world sample; division of labor, marriage and sexual behavior, power and ideology. Offered Intermittently.
Prerequisites: ANT 2100 with a minimum grade of D-

ANT 5260 The African Religious Experience: A Triple Heritage Cr. 3
A triple heritage has contributed to the shaping of lives of African descent: the indigenous, Islamic and Christian religions. Analysis of these legacies, their specificity, interplay and significance in Africa, the Caribbean, South and North America. Offered Intermittently.

ANT 5270 Concepts and Techniques in Archaeology Cr. 3
Intensive introduction to archaeological interpretation, theory, and methods geared towards anthropology graduate students and advanced students from related fields. Examines intellectual history of archaeological ideas since mid-20th century and evaluates theoretical frameworks and techniques used to understand the archaeological record, material culture, past environments, social practices, political and economic organizations, and long term culture change. Also considers archaeology's relationships with anthropology and the world beyond academia. Offered Winter.
Prerequisites: ANT 2100 with a minimum grade of C, ANT 3020 with a minimum grade of C, and ANT 3200 with a minimum grade of C

ANT 5280 Field Work in Archaeology of the Americas Cr. 4
Introduction to the practice and process of archaeological fieldwork. Students participate in survey and/or excavation of an archaeological site to learn the methods of archaeological recovery and analysis. This class can be counted as a field school. Offered Every Other Fall.
Course Material Fees: $50

ANT 5320 Language and Societies Cr. 3
For graduate students and advanced undergraduates with a background in linguistic anthropology. Students read classic and contemporary works of linguistic anthropology to expand knowledge of human language and sociality; conduct a major original research project. Offered Winter.
Prerequisites: ANT 3310 with a minimum grade of D- or LIN 3310 with a minimum grade of D-
Equivalent: LIN 5320

ANT 5370 Magic, Religion and Science Cr. 3
The nature and variety of religious belief and practice; theoretical interpretations. Offered Every Other Year.
Prerequisites: ANT 2100 with a minimum grade of D-

ANT 5380 History of Anthropology Cr. 3
Required for majors. History of ideas and explanatory theories in anthropology; continuities and disjunctures in British, French, American, German, Belgian, Russian, and Third World anthropologies. Offered Fall.
Prerequisites: ANT 2100 with a minimum grade of D- or ANT 7005 with a minimum grade of D-

ANT 5400 Anthropology of Health and Illness Cr. 3
Concepts and theory in medical anthropology from cultural and biological perspectives. Topics include: cross-cultural aspects of sex and gender in health and illness, life course, sexuality, birth and death, biocultural approaches to healing and treatment, international health and epidemiology. Offered Every Other Year.
Prerequisites: ANT 2100 with a minimum grade of D-

ANT 5410 Anthropology of Age Cr. 3
Cultural construction of the life course; age categories such as childhood and old age examined from cross-cultural, historical, political and economic perspectives. Special attention to women's aging; role of biology and ethnicity in aging and death and dying. Offered Every Other Year.
Prerequisites: ANT 2100 with a minimum grade of D-

ANT 5420 Anthropology Practicum Cr. 3
Field placement in a service agency or other organization. Students provide volunteer assistance to an agency while conducting participant observation research exercises. Utilization of field experience to learn about a variety of research issues and methodologies. Offered Yearly.
Restriction(s): Enrollment is limited to Undergraduate level students.

ANT 5450 Kinship and Social Relations Cr. 3
How are kinship relations created, transformed, reshaped, and unmade? How do people experience kinship, and what does it mean to be related? How do these processes, experiences, and imaginations vary across space and time? What is the role of kinship studies in anthropology, and how has this changed over the history of the discipline? This course explores these questions through a rigorous analysis of contemporary and historical readings in the anthropological study of kinship and social relations. This course will draw on case studies from the Americas, Europe, Africa, the Middle East, Asia (Central, East, Southeast), and Melanesia. Offered Intermittently.

ANT 5500 Historical Archaeology Cr. 3
Historical archaeology studies the emergence and transformations of the Modern World (post-1500 AD) through the convergence of material remains (artifacts), documentary sources, and oral histories left behind by past societies. Case studies focus on the period between the16th-20th centuries and are drawn from local and global examples on major topics, such as capitalism, colonialism, race, inequality, gender, sexuality, age, politics, and heritage. Offered Every Other Year.

ANT 5510 Pre-Columbian and Mesoamerican Civilization Cr. 3
Survey of the history and characteristics of cultures in Mesoamerica prior to and after colonization, from the Olmec and Maya to the Aztec and their descendants. Offered Every Other Year.
Prerequisites: ANT 2100 with a minimum grade of D-

ANT 5565 Urban Archaeology Cr. 3
Urban archaeology in the modern and contemporary eras is introduced as an area of social and political engagement with the material remains of the past (ca. 1750 - present). Urban archaeology is entwined with issues of historic preservation, heritage management, city planning, and urban ecology. Class covers a variety of urban archaeology topics in modern and post-industrial Western societies, and involves interactions with Detroit's archaeological and heritage sites, digital humanities techniques, and other approaches that connect urban archaeology with the anthropology of the city. Offered Every Other Year.

ANT 5600 Museum Studies Cr. 3
Introduction to basics of museums, museum work, and museum theory. Topics include: collections management, data bases, interpretive exhibit methods, current issues in museum studies, legal concerns, role of museums as educational institutions. Offered Every Other Year.

ANT 5700 Applied Anthropology Cr. 3
The application of anthropological concepts and methods to contemporary issues of public concern in the United States and abroad. Offered Fall.
Prerequisites: ANT 2100 with a minimum grade of D- or ANT 7005 with a minimum grade of D-

ANT 5800 Anthropological Perspectives on Business Cr. 3
Implications of applying the term ""business"" to a field or activity. Anthropological approaches to the question of how business differs from other forms of authority and commerce, particularly outside the modern, Euro-American sphere. Offered Intermittently.

ANT 5900 Culture, Language and Cognition Cr. 3
Systematic investigation of the relationships among, language, cognition and culture, including issues relating to human universals, cross-cultural concept formation, metaphor, classification and the evolution of cognition and language. Offered Every Other Winter.
Prerequisites: ANT 3310 with a minimum grade of D- or ANT 5320 with a minimum grade of D- or LIN 3310 with a minimum grade of D- or LIN 5320 with a minimum grade of D- or LIN 3080 with a minimum grade of D- or PSY 3080 with a minimum grade of D-
Restriction(s): Enrollment is limited to Graduate or Undergraduate level students.
Equivalent: LIN 5900, PSY 5900

ANT 5993 Writing Intensive Course in Anthropology Cr. 0
Satisfies General Education Requirement: Writing Intensive Competency Disciplinary writing assignments under the direction of a faculty member. Must be selected in conjunction with a course designated as a corequisite. See section listing in Schedule of Classes for corequisites available each term. Satisfies the University General Education Writing-Intensive Course in the Major requirement. Within first three weeks of enrollment in corequisite course, student must notify instructor of enrollment in ANT 5993. Required for all majors. Offered Winter.
Prerequisites: May be taken concurrently: ANT 5310 or ANT 5996 or AFS 2390 with a minimum grade of C or ENG 2390 with a minimum grade of C or ENG 3010 with a minimum grade of C or ENG 3020 with a minimum grade of C or ENG 3050 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students.

ANT 5996 Capstone Seminar in Anthropology Cr. 3
Required for majors. Review and integrate central practices and theories in anthropology through discussion of the four major subfields and applied areas of anthropology. Special attention will be given to new developments in the different fields. Recommended for new graduate students without extensive background in anthropology; also open to those outside anthropology who desire a thorough view of research areas and theoretical perspectives in anthropology. Offered Winter.

ANT 6290 Culture Area Studies Cr. 3
Culture and social changes. Origins and functional relationships, regional variation in population, settlement, culture contact, religion, migration, social institutions. Topics to be announced in Schedule of Classes . Offered Intermittently.
Prerequisites: ANT 2100 with a minimum grade of D-
Repeatable for 9 Credits

ANT 6420 Economic Anthropology Cr. 3
Use of economic analysis in anthropology. Difference between Western and non-Western economies and economic models; methods of analysis of non-Western economies and non-rationalized sectors of Western economies. Offered Intermittently.

ANT 6510 The Inca and their Ancestors Cr. 3
Study of pre-Columbian cultures of South America. Archaeological and ethnohistorical data beginning with the Inca; foundations of Inca civilization; major cultures from different regions and periods in South American prehistory. Offered Every Other Year.
Prerequisites: ANT 2100 with a minimum grade of C, ANT 3020 with a minimum grade of C, and ANT 3200 with a minimum grade of C

ANT 6555 Cultural Resource Management and Public Archaeology Cr. 3
Practicum focuses on historical development of cultural resource management (CRM) in the U.S.; contemporary regulatory framework of CRM; practical experience in project planning, proposal writing, archival research, project management and the reporting process. Offered Every Other Year.
Prerequisites: ANT 5270 with a minimum grade of C or ANT 5280 with a minimum grade of C

ANT 6570 Archaeological Laboratory Analysis Cr. 3
Introduction to conventional and innovative laboratory methods used for the analysis of archaeological artifacts from both prehistoric and historic periods. Intensive hands-on class for advanced students using the collections of the Grosscup Museum of Anthropology. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.

ANT 6650 Studies in Physical Anthropology Cr. 2-4
Selected topics in physical anthropology. Topics to be announced in Schedule of Classes. Offered Intermittently.
Prerequisites: ANT 2110 with a minimum grade of D-
Repeatable for 12 Credits

ANT 6680 Studies in Cultural Anthropology Cr. 2-4
Selected topics in cultural anthropology. Topics to be announced in Schedule of Classes. Offered Intermittently.
Prerequisites: ANT 2100 with a minimum grade of D-
Repeatable for 12 Credits

ANT 6993 History Communication Cr. 3
This course examines the challenges associated with communicating about the past in today's media-saturated environment. Case studies include analysis of communication surrounding controversial historical issues such as slavery and race, to the examination of successful history communicators operating in various media. An important sub-theme focuses on best practices and ethics when it comes to communicating history to non-experts through emerging media. Students also learn how to "economize" the history communicator skillset for the workplace. Offered Every Other Fall.
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: HIS 6993

ANT 7005 Proseminar in Anthropology I Cr. 3
Introduction to anthropological theory including key figures and issues across the discipline. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.

ANT 7010 Proseminar in Anthropology II Cr. 3
Examination of some major debates in anthropology in contemporary perspective; continuities and breakthroughs. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students.

ANT 7020 Anthropological Theory II Cr. 3
Continuation of ANT 7010. Offered Every Other Year.
Prerequisites: ANT 7010 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

ANT 7030 Debates in Anthropology Cr. 3
Advanced seminar on enduring questions and key debates in anthropological thought over its history, including different subfields and allied social sciences. Offered Winter.
Prerequisites: ANT 7020 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Anthropology; enrollment limited to students in a Doctor of Philosophy degree.

ANT 7200 Qualitative Research I Cr. 3
Qualitative methods techniques and research design. Students conduct independent field research and learn data collection methods. Offered Every Other Year.
Prerequisites: ANT 7010 with a minimum grade of C or ANT 7020 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

ANT 7210 Qualitative Research II Cr. 3
Students continue their field research and learn to analyze and draw theoretical conclusions from their data. Training in computer and other tools for data analysis and theory building. Offered Every Other Year.
Prerequisites: ANT 7200 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

ANT 7260 Urban Poverty and Racial Segregation Cr. 3
Review of theories of poverty from various economic/political perspectives; historical intervention policies; current literature on interplay of racial, economic, and spatial factors on growing economic inequality among urban whites and African-Americans. Political rationale and meaning of the underclass debate. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: AFS 6600, PS 7260, SOC 7350, UP 7260

ANT 7420 Anthropology Practicum Cr. 3
Field placement in a service agency or other organization. Students provide volunteer assistance to an agency while conducting participant observation research exercises. Utilization of field experience to learn about a variety of research issues and methodologies. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.

ANT 7430 End-of-Life Issues Cr. 3-4
Physical, spiritual, legal, economic, political, cultural, and ethical issues at the end of life, examined as stories about individuals, families, and communities. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: NUR 7515, SOC 7020

ANT 7450 Kinship and Social Relations Cr. 3
How are kinship relations created, transformed, reshaped, and unmade? How do people experience kinship, and what does it mean to be related? How do these processes, experiences, and imaginations vary across space and time? What is the role of kinship studies in anthropology, and how has this changed over the history of the discipline? This course explores these questions through a rigorous analysis of contemporary and historical readings in the anthropological study of kinship and social relations. This course will draw on case studies from the Americas, Europe, Africa, the Middle East, Asia (Central, East, Southeast), and Melanesia. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students.

ANT 7605 Seminar in Problems and Concepts in Medical Anthropology Cr. 1-9
Topics to be announced in Schedule of Classes. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 9 Credits

ANT 7620 Seminar in Problems and Concepts in Archaeology Cr. 3
Central concepts and theories. Current developments, problems and contemporary research orientations. Topics to be announced in Schedule of Classes . Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 15 Credits

ANT 7625 Material Culture and the Social Meaning of Things Cr. 3
Our relationship with objects, and various ways of looking at material culture as part of our social world. Understanding and appreciation of the materiality of our lives and the lives of peoples of different cultures. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.

ANT 7630 Seminar in Problems and Concepts in Cultural Anthropology Cr. 2-3
Central concepts and theories. Current developments, problems and contemporary research orientations. Topics to be announced in Schedule of Classes . Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 9 Credits

ANT 7635 Globalization and Culture Cr. 3
Focuses on the discourse, debates, and practices of globalization from an anthropological perspective. Fast-paced seminar course for graduate students. Topics include: globalization, localization, and anti-globalization; citizenship and belonging; modernity; transnationalism; migration and diaspora; global food systems; consumption and production; popular culture; religion; development; methodological issues in studying global phenomena. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.

ANT 7665 Seminar in Linguistic Anthropology Cr. 3
Central concepts and theories. Current developments, problems and contemporary research orientations. Topics to be announced in Schedule of Classes. Offered Intermittently.
Prerequisites: ANT 5320 with a minimum grade of C or LIN 5320 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: LIN 7665

ANT 7680 Medical Anthropology I Cr. 3
Core concepts and theoretical approaches, including: aging, life course, childhood, old age, disability, chronic illness, infectious disease, international health, organization of health care institutions, health policy, political economy of health, women's health, reproduction, technology, the body, bioethics, culture and cognition, death and dying, race and ethnicity, violence, sex and sexuality. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 6 Credits

ANT 7690 Medical Anthropology II Cr. 3
Continuation of ANT 7680. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.

ANT 7777 Teaching Anthropology Cr. 1
Teaching anthropology at the college level, including pedagogical philosophies and practical strategies. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students in the Department of Anthropology.

ANT 7780 Conceptualizing the Dissertation Cr. 3
Basic concepts, practices, and skills needed to develop and present a grant proposal for funding. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.

ANT 7900 Synthesis Cr. 3
Integrative, holistic, and comparative examination of anthropology as the synthesis of diverse analytic perspectives and methodologies. Offered Winter.
Prerequisites: ANT 7005 with a minimum grade of C and ANT 7010 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

ANT 7987 Directed Study in Business/Organizational Anthropology Cr. 1-9
Research problem which involves fieldwork or intensive and systematic reading of original technical literature. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 9 Credits

ANT 7990 Directed Study in Physical Anthropology Cr. 1-8
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 8 Credits

ANT 7991 Directed Study in Linguistics Cr. 1-9
A research problem which requires field work or intensive and systematic reading of original technical literature. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: LIN 7991
Repeatable for 9 Credits

ANT 7992 Directed Study in Archaeology Cr. 1-9
A research problem which requires field work or intensive and systematic reading of original technical literature. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 9 Credits

ANT 7993 Directed Study in Cultural Anthropology Cr. 1-9
A research problem which requires field work or intensive and systematic reading of original technical literature. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 9 Credits

ANT 7994 Directed Study in Medical Anthropology Cr. 1-9
Research problem requiring intensive study of original documents, specialized literature, and/or field research with write-up. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 9 Credits

ANT 7995 Directed Study Cr. 1-9
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 9 Credits

ANT 7998 Field Problem Cr. 1-9
A research problem which requires field work or intensive and systematic reading of original technical literature. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 9 Credits

ANT 7999 Master's Essay Direction Cr. 3
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students with a class of Candidate Masters.

ANT 8999 Master's Thesis Research and Direction Cr. 1-8
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students with a class of Candidate Masters.
Repeatable for 8 Credits

ANT 9990 Pre-Doctoral Candidacy Research Cr. 1-8
Research in preparation for doctoral dissertation. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 12 Credits

ANT 9991 Doctoral Candidate Status I: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.

ANT 9992 Doctoral Candidate Status II: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: ANT 9991 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

ANT 9993 Doctoral Candidate Status III: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: ANT 9992 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

ANT 9994 Doctoral Candidate Status IV: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: ANT 9993 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

ANT 9995 Candidate Maintenance Status: Doctoral Dissertation Research and Direction Cr. 0
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $370.26
Repeatable for 0 Credits

APA - ART: PAINTING

APA 2000 Oil Painting I Cr. 3
Traditional materials and methods of oil painting as a means of visual expression. Previous painting experience is not required. Painting from direct observation and imagination. Offered Every Term.
Prerequisite: ADR 1050 with a minimum grade of C- and ACO 1200 with a minimum grade of C-
Course Material Fees: $30

APA 2110 Watercolor Painting I Cr. 3
Methods and materials of transparent watercolor painting. Previous experience with watercolor painting is not required. Compositions based on observation and imagination. Offered Fall, Winter.
Prerequisite: APA 2000 with a minimum grade of C-
Course Material Fees: $30

APA 2130 Introduction to Alternative Painting Media Cr. 3
Survey of materials and methods of acrylic painting, encaustic painting, pastel painting, as well as collage and mixed media painting. Previous painting experience is not required. Compositions based on observation and imagination. Offered Yearly.
Prerequisite: ACO 1200 with a minimum grade of C-
Course Material Fees: $80

APA 2200 Introduction to Mural Painting Cr. 3
Introduction to the methods and materials of traditional Buon Fresco painting as well as methods and materials for contemporary mural painting in the community arts context. Offered Fall.
Prerequisite: ACO 1200
Course Material Fees: $65

APA 3000 Oil Painting II Cr. 3
Continued emphasis on structure of painting. Individual development of pictorial, emotional and conceptual aspects of image-making. Offered Every Term.
Prerequisite: APA 2000 with a minimum grade of C-
Course Material Fees: $30

APA 3110 Watercolor Painting II Cr. 3
Continued experience with watermedia compositions based on observation and/or imagination. Offered Fall, Winter.
Prerequisite: APA 2110 with a minimum grade of C-
Restriction(s): Enrollment is limited to students in the Department of Art and Art History; enrollment limited to students in a Bachelor of Arts or Bachelor of Fine Arts degrees.
Course Material Fees: $30

APA 3130 Figure Painting: Water Media Cr. 3
Spontaneous and sustained paintings from direct observation of the human figure. Inquiry into the effects of scale, space and emotional responses are encouraged. Offered Yearly.
Prerequisite: APA 2110 with a minimum grade of C-
Restriction(s): Enrollment is limited to students in the Department of Art and Art History; enrollment limited to students in a Bachelor of Arts or Bachelor of Fine Arts degrees.
Course Material Fees: $90

APA 3140 Figure Painting: Oil and Other Media Cr. 3
Sustained and gestural studies of human figure. Individual responses to scale, space, emotional content. Offered Every Term.
Prerequisite: APA 3000 with a minimum grade of D-
Restriction(s): Enrollment is limited to students in the Department of Art and Art History; enrollment limited to students in a Bachelor of Arts or Bachelor of Fine Arts degrees.
Course Material Fees: $90

APA 4000 Oil Painting III Cr. 3
Individual development of personal painting ideas through assigned projects and/or student initiative in consultation with instructor. Continued emphasis on formal and expressive aspects of painting. Offered Every Term.
Prerequisite: APA 3000 with a minimum grade of C-
Restriction(s): Enrollment is limited to students in the Department of Art and Art History.
Course Material Fees: $30

APA 5000 Oil Painting IV Cr. 3
Individual development in painting. Offered Every Term.
Prerequisites: APA 4000
Restriction(s): Enrollment is limited to students in the Department of Art and Art History.
Course Material Fees: $30
Repeatable for 6 Credits

APA 5060 Advanced Concepts in Drawing and Painting Cr. 3-6
Emphasis on individual projects using any appropriate medium. Students select subjects and approaches under faculty guidance; may include lectures, demonstrations, off-campus visits. Offered Yearly.
Prerequisites: ADR 3070 or APA 4000
Restriction(s): Enrollment is limited to students in the Department of Art and Art History; enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts, Bachelor of Science, Master of Arts or Master of Fine Arts degrees.
Course Material Fees: $30
Equivalent: APA 5700, APA 7060
Repeatable for 6 Credits

APA 5080 Landscape Painting Cr. 3
Painting or drawing, as appropriate, outdoors at various urban, suburban and rural sites in metropolitan Detroit area. Students are expected to drive or carpool to locations within an hour of Detroit. Interpretation of landscape subjects through observation and imagination. Offered for undergraduate credit only. Offered Spring/Summer.
Prerequisite: APA 2000 with a minimum grade of C-
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment is limited to students in the Department of Art and Art History.
Course Material Fees: $30
Repeatable for 6 Credits

APA 5100 Contexts of Studio Practice Cr. 3
Critical inquiry into art issues, past and present, and contemporary studio practices related to painting. Seminar based on visits to museums, galleries, private collections, artists' studios, and optional trips to major art centers such as New York and Chicago. Offered Yearly.
Restriction(s): Enrollment is limited to students in the Department of Art and Art History.
Equivalent: ADR 5100
Repeatable for 6 Credits

APA 5110 Watercolor Painting III Cr. 3
Individual work in transparent and/or opaque water-based media. Offered Fall, Winter.
Prerequisites: APA 3110 with a minimum grade of C-
Restriction(s): Enrollment is limited to students in the Department of Art and Art History; enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts, Bachelor of Science, Master of Arts or Master of Fine Arts degrees.
Course Material Fees: $30
Repeatable for 6 Credits

APA 5130 Figure Painting Advanced: Water Media Cr. 3
Individual development in water media based on observation of human figure. Offered Yearly.
Prerequisites: APA 3130 with a minimum grade of C-
Restriction(s): Enrollment is limited to students in the Department of Art and Art History; enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts, Bachelor of Science, Master of Arts or Master of Fine Arts degrees.
Course Material Fees: $90
Repeatable for 6 Credits

APA 5140 Figure Painting Advanced: Oil and Other Media Cr. 3
Individual development based on the human figure using any appropriate medium. Offered Yearly.
Prerequisites: APA 3140 with a minimum grade of C-
Restriction(s): Enrollment is limited to students in the Department of Art and Art History; enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts, Bachelor of Science, Master of Arts or Master of Fine Arts degrees.
Course Material Fees: $90
Repeatable for 6 Credits

APA 5160 Advanced Alternative Painting Media Cr. 3
Individual work in the materials and methods of acrylic painting, encaustic painting, pastel painting, as well as collage and mixed media painting. Offered Fall, Winter.
Prerequisite: APA 2130 with a minimum grade of C-
Course Material Fees: $80
Repeatable for 6 Credits

APA 5200 Advanced Mural Painting Cr. 3
Individual work in the materials and methods of Buon Fresco painting and modern mural painting. Offered Fall.
Prerequisite: ACO 1200

APA 5700 Advanced Concepts in Drawing and Painting Cr. 3-6
Emphasis on individual projects using any appropriate medium. Students select subjects and approaches under faculty guidance; may include lectures, demonstrations, off-campus visits. Offered Yearly.
Prerequisites: APA 4000 with a minimum grade of C- or APA 3070 with a minimum grade of C-
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment is limited to students in the Department of Art and Art History; enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts or Bachelor of Science degrees.
Course Material Fees: $30
Equivalent: APA 5060, APA 7060
Repeatable for 6 Credits

APA 5810 Directed Projects: Painting Cr. 3-6
Self-directed work in consultation with graduate faculty on an arranged basis. Offered Fall, Winter.
Restriction(s): Enrollment is limited to students in the Department of Art and Art History; enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts, Bachelor of Science, Master of Arts or Master of Fine Arts degrees.
Repeatable for 998.99 Credits

APA 7000 Graduate Oil Painting Cr. 3
Individual work in oil painting, or other material as appropriate. Offered Every Term.
Prerequisite: APA 5000 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students in the Department of Art and Art History; enrollment limited to students in the MA in Fine Arts or Master of Fine Arts programs.
Course Material Fees: $30
Repeatable for 9 Credits

APA 7060 Graduate Problems in Drawing and Painting Cr. 3-9
Emphasis on individual projects using any appropriate medium. Students select subjects and approaches under faculty guidance; may include lectures, demonstrations, off-campus visits. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students in the Department of Art and Art History; enrollment limited to students in a Master of Arts or Master of Fine Arts degrees.
Course Material Fees: $30
Equivalent: APA 5060
Repeatable for 15 Credits

APA 7080 Landscape Painting Cr. 3
Painting or drawing, as appropriate, outdoors at various urban, suburban and rural sites in metropolitan Detroit area. Interpretation of landscape subjects through observation and imagination. Students are expected to drive or carpool to locations within an hour of Detroit. Offered Spring/Summer.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students in the Department of Art and Art History; enrollment limited to students in a Master of Arts or Master of Fine Arts degrees.
Course Material Fees: $30
Repeatable for 15 Credits

APA 7110 Graduate Watercolor Painting Cr. 3
Individual work in transparent and/or opaque water-based media. Offered Fall, Winter.
Prerequisite: APA 5110 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students in the Department of Art and Art History; enrollment limited to students in a Master of Arts or Master of Fine Arts degrees.
Course Material Fees: $30
Repeatable for 9 Credits

APA 7130 Graduate Problems in Figure Painting: Water Media Cr. 3
Individual development of images based on the human figure. Offered Yearly.
Prerequisite: APA 5130 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students in the Department of Art and Art History; enrollment limited to students in a Master of Arts or Master of Fine Arts degrees.
Course Material Fees: $90
Repeatable for 6 Credits

APA 7140 Graduate Problems in Figure Painting: Oil Media Cr. 3
Individual development of images based on the human figure. Offered Yearly.
Prerequisite: APA 5140 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students in the Department of Art and Art History; enrollment limited to students in a Master of Arts or Master of Fine Arts degrees.
Course Material Fees: $90
Repeatable for 9 Credits

APA 8810 MFA Studio: Painting Cr. 3-9
Extended self-directed work in painting (eighteen to twenty-seven hours per week). Consultation with appropriate graduate faculty on an arranged basis. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students in the Department of Art and Art History; enrollment limited to students in a Master of Fine Arts degree.
Repeatable for 36 Credits

APH - ART: PHOTOGRAPHY

APH 2400 Introduction to Photography Cr. 3
Essential technical, conceptual, and artistic problems associated with photography. Exploration of how photography functions as visual language and how a camera works in order to use it as a tool for personal expression. Students must have own digital camera that has access to Aperture/ Shutter Speed/ Manual controls and shoots at least 10 megapixels image. Offered Every Term.

APH 2410 Black and White Darkroom Photography I Cr. 3
Introduces darkroom practices, including: black and white analog film processing, printing and presentation. Students must have own film 35 mm or 120 mm medium format film camera. Offered Every Term.
Prerequisite: APH 2400 with a minimum grade of C-
Course Material Fees: $180

APH 2420 Digital Photography I Cr. 3
Introduces students to the underlying principles, languages and tools of electronic media in relationship to photographic imaging. Students will learn key concepts in digital imaging such as modes of data capture, file management, processing workflow, color management, resolution, non-destructive image processing, film scanning and inkjet printing. A digital camera that shoots RAW images and has access to manual controls is required for this course. Offered Every Term.
Prerequisite: APH 2400 with a minimum grade of C-
Course Material Fees: $180

APH 3410 Black and White Darkroom Photography II Cr. 3
Furthers an intermediate development of photographic darkroom practices from exposure and development of black and white film, to printing and presentation. Students must have their own film 35 mm or 120 mm medium format film camera. Offered Every Term.
Prerequisite: APH 2410 with a minimum grade of C-
Course Material Fees: $180

APH 3420 Digital Photography II Cr. 3
Designed to give upper level photo concentrators a thorough understanding of the intermediate-level workflow for film-capture and scanning, and digital camera RAW file capture. Explores technical issues, including advanced tonal and color correction techniques, image sharpening, digital camera exposure and Raw file processing, inkjet printing and automated batch file processing; as well as the development of a conceptually rigorous portfolio. Students entering this course should be proficient in the use of the Macintosh platform and basic Photoshop operations. A digital camera that shoots RAW images and has access to manual controls is required for this course. Offered Every Term.
Prerequisite: APH 2420 with a minimum grade of C-
Course Material Fees: $180

APH 4410 Advanced Photography Cr. 3
This course is for upper level photo concentrators in order to bring together advanced skills and ideas about image making. Students are expected to work independently on their individual projects with the expectation of a culminating body of work; they will refine their skills as photographers and learn how to verbally articulate issues in their own work as well as the work of others. Offered Yearly.
Prerequisite: APH 3410 with a minimum grade of C-
Restriction(s): Enrollment is limited to students in the Department of Art and Art History; enrollment limited to students in a Bachelor of Arts or Bachelor of Fine Arts degrees.
Course Material Fees: $180
Repeatable for 6 Credits

APH 4420 View Camera Cr. 3
Basic view camera techniques. Sheet film processing and printing. Integration of digital technology. Offered Yearly.
Restriction(s): Enrollment is limited to students in the Department of Art and Art History; enrollment limited to students in a Bachelor of Arts or Bachelor of Fine Arts degrees.
Course Material Fees: $180

APH 5440 Experimental Photography Cr. 3-6
Work in non-traditional processes including image and emulsion transfer, hand-applied emulsions, laser copy and xerographic transfer. Offered Every Other Year.
Prerequisite: APH 3410 with a minimum grade of C-
Restriction(s): Enrollment is limited to students in the Department of Art and Art History; enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts, Master of Arts or Master of Fine Arts degrees.
Course Material Fees: $180
Repeatable for 9 Credits

APH 5450 Selected Topics in Photography Cr. 3
Topics to be announced in Schedule of Classes . Offered Yearly.
Prerequisites: APH 4410
Restriction(s): Enrollment is limited to students in the Department of Art and Art History; enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts, Master of Arts or Master of Fine Arts degrees.
Course Material Fees: $180
Repeatable for 6 Credits

APH 5850 Directed Projects: Photography Cr. 3-9
Individual problems. Offered Fall, Winter.
Restriction(s): Enrollment is limited to students in the Department of Art and Art History; enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts, Master of Arts or Master of Fine Arts degrees.
Course Material Fees: $180
Repeatable for 998.99 Credits

APH 5860 Social Documentary: Community, Compassion, and Activism Cr. 3
Satisfies General Education Requirement: Diversity Equity Incl Inquiry
Photographic documentation applied to social cause, community representation, and visual/multicultural critical theory. Offered Intermittently.
Prerequisite: APH 2400 with a minimum grade of C-
Course Material Fees: $180

APH 7400 Graduate Photography Cr. 3-9
Individual problems in advanced photography. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students in the Department of Art and Art History; enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts, Master of Arts or Master of Fine Arts degrees.
Course Material Fees: $180
Repeatable for 24 Credits

APH 8850 MFA Studio: Photography Cr. 3-9
Extended problems in photography; individual research with eighteen to twenty-seven hours of laboratory per week. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students in the Department of Art and Art History; enrollment limited to students in a Master of Fine Arts degree.
Course Material Fees: $180
Repeatable for 36 Credits

APR - ART: PRINTMAKING

APR 2300 Printmaking Cr. 3
Introduction to a variety of printmaking processes may include the following: lithography, etching, monotype, screenprint, and, relief. Offered Yearly.
Prerequisite: ADR 1050 or ACO 1200
Course Material Fees: $90

APR 3470 Photo-Processes for Printmaking I Cr. 3
Light sensitive printmaking processes are explored, and may include photo-lithography, photo-etching, photo-screen printing, and cyanotypes. Students may create prints utilizing traditional or digital drawing, analog or digital photography, and hybrid techniques. Offered Winter.
Prerequisite: ADR 1050 or AGD 2240 or ADA 2220 or APH 2410
Course Material Fees: $115

APR 3480 Intaglio I Cr. 3
Basic metal plate printing techniques: etching, aquatint, drypoint, soft ground, and lift ground. Offered Fall, Winter.
Prerequisite: ADR 1050 or ACO 1200
Course Material Fees: $110

APR 3490 Lithography I Cr. 3
Fundamentals of stone and plate lithography applying traditional and contemporary techniques of crayon, tusche, and photolithography. Offered Spring/Summer.
Prerequisite: ADR 1050 or ACO 1200
Course Material Fees: $110

APR 3500 Screen Printing I Cr. 3
Introduction to basic techniques of screen printing. Offered Yearly.
Prerequisite: ADR 1050 and ACO 1200 and APH 2400 and AGD 2240
Course Material Fees: $110

APR 3510 Relief and Experimental Printmaking I Cr. 3
Traditional and contempory methods of relief printimaking including woodcut and linoleum. Collograph, monoprint, monotype, and experimental methods may be included. Offered Every Term.
Prerequisite: ADR 1050 or ACO 1200
Course Material Fees: $90

APR 5470 Photo-Processes for Printmaking II Cr. 3
Light sensitive printmaking processes are explored, and may include photo-lithography, photo-etching, photo-screen printing, and cyanotypes. Students may create prints utilizing traditional or digital drawing, analog or digital photography, and hybrid techniques. Emphasis on creating a conceptually focused body of work. Offered Winter.
Prerequisites: APR 3470
Course Material Fees: $115
Repeatable for 9 Credits

APR 5480 Intaglio II Cr. 3
Further development of intaglio printmaking skills including: range of techniques, color methods, and printing. Emphasis on creating a conceptually focused body of work. Offered Fall, Winter.
Prerequisites: APR 3480
Course Material Fees: $110
Repeatable for 9 Credits

APR 5490 Lithography II Cr. 3
Advanced problems in lithography. Black and white, multicolor, transfer methods. Offered Fall, Winter.
Prerequisites: APR 3490
Course Material Fees: $110
Repeatable for 9 Credits

APR 5500 Screen Printing II Cr. 3
Further development of screen-printing techniques and printing. Emphasis on creating a conceptually focused body of work. Offered Yearly.
Prerequisites: APR 3500
Course Material Fees: $110
Repeatable for 9 Credits

APR 5510 Relief and Experimental Printmaking II Cr. 3
Emphasis on creating a conceptually focused body of work and increased relief technical skills through the practice of multiple block/plate printing, color, large format, unique format, and hybrid techniques. Offered Spring/Summer.
Prerequisites: APR 3510
Course Material Fees: $90
Repeatable for 9 Credits

APR 7470 Graduate Photo Processes for Printmaking Cr. 3
Exploration of non-traditional formats and print surfaces. Editioning optional. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students in the Department of Art and Art History; enrollment limited to students in a Master of Arts or Master of Fine Arts degrees.
Course Material Fees: $115
Repeatable for 9 Credits

APR 7480 Graduate Intaglio Cr. 3
Advanced problems in intaglio. Multiplate and rollup color printing. Photo intaglio techniques, experimental media. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students in the Department of Art and Art History; enrollment limited to students in a Master of Arts or Master of Fine Arts degrees.
Course Material Fees: $110
Repeatable for 9 Credits

APR 7490 Graduate Lithography Cr. 3
Advanced work in lithography. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students in the Department of Art and Art History; enrollment limited to students in a Master of Arts or Master of Fine Arts degrees.
Course Material Fees: $110
Repeatable for 6 Credits

APR 7500 Graduate Serigraphy Cr. 3
Advanced work in serigraphy. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students in the Department of Art and Art History; enrollment limited to students in a Master of Arts or Master of Fine Arts degrees.
Course Material Fees: $110

APR 7510 Graduate Relief and Experimental Printmaking Cr. 3
Traditional relief methods: woodcut, wood engraving, linocut; also monoprint and monotype, constructed prints, other experimental approaches. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students in the Department of Art and Art History; enrollment limited to students in a Master of Fine Arts degree.
Course Material Fees: $90
Repeatable for 15 Credits

APR 8840 MFA Studio: Printmaking Cr. 3-9
Extended problems in printmaking; individual research with eighteen to twenty-seven hours of laboratory per week. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students in the Department of Art and Art History; enrollment limited to students in a Master of Fine Arts degree.
Course Material Fees: $100
Repeatable for 36 Credits

APX - ACADEMIC PATHWAY EXCELLENCE

APX 0500 Foundations in Writing Cr. 3
Preliminary course designed to provide foundational work in writing, in preparation for ENG 1010. Basic writing; emphasis on grammar, vocabulary and paragraph development, and organization. No degree credit. Offered Yearly.
Restriction(s): Enrollment is limited to Undergraduate level students.

APX 0510 Practical Mathematics Cr. 3
Review of concepts involving arithmetic with fractions, decimals, and percent; units conversions; ratio and proportion; exponents and radicals; algebra and linear equations; with word problems emphasized. Some elementary geometry, interpretations of graphs, and probability included. This course prepares students for MAT 0993. Offered Yearly.
Restriction(s): Enrollment is limited to Undergraduate level students.

APX 0600 Learning Community Seminar Cr. 0
Students are involved in group learning, community service initiatives, and social development projects. Offered Every Term.
Restriction(s): Enrollment is limited to Undergraduate level students.

APX 1000 Learning Strategies for College Success Cr. 2
First-year seminar course designed to improve critical thinking, notetaking, and exam preparation strategies for application to college courses. Offered Every Term.
Restriction(s): Enrollment is limited to Undergraduate level students.

APX 1010 Seminar in Reading College Texts Cr. 2
Development and application of critical and analytical thinking skills to college-level texts and the process of developing new ideas. Offered Every Term.
Restriction(s): Enrollment is limited to Undergraduate level students.

ARB - ARABIC

ARB 1010 Elementary Arabic I Cr. 4
Vocabulary, forms, syntax, graded readings. Offered Every Term.
Course Material Fees: $5

ARB 1020 Elementary Arabic II Cr. 4
Continuation of ARB 1010. Offered Every Term.
Prerequisites: ARB 1010 with a minimum grade of D-
Course Material Fees: $5

ARB 2010 Intermediate Arabic I Cr. 4
Satisfies General Education Requirement: Foreign Culture, Global Learning Inquiry
Continuation of grammar, readings in classical and modern prose. Offered Every Term.
Prerequisites: ARB 1020 with a minimum grade of D-
Course Material Fees: $5

ARB 2020 Intermediate Arabic II Cr. 4
Continuation of ARB 2010. Offered Winter.
Prerequisites: ARB 2010 with a minimum grade of D-
Course Material Fees: $5

ARB 3010 Business Arabic Cr. 3
Introduces learners of Arabic to language functions associated with business and travel. Communication for immediate use; emphasis on educated spoken Arabic. Situational dialogues built around units to address topics related to business such as job interview, airplane ticket purchase, and the like. Offered Winter.
Prerequisites: ARB 2010 with a minimum grade of D-

ARB 3110 Advanced Arabic I Cr. 3
Third year Arabic language course: advanced Arabic grammar, complexities of sentence construction in various styles (literary, political, and scientific texts; written media; business correspondence). Offered Fall, Winter.
Prerequisites: ARB 2020 with a minimum grade of D-

ARB 3120 Advanced Arabic II Cr. 3
Completion of ARB 3110; variations between classical Arabic and modern standard Arabic. Offered Fall, Winter.
Prerequisites: ARB 3110 with a minimum grade of D-

ARB 3210 Spoken Arabic Cr. 3
Introduction to authentic spoken Arabic. Language of everyday life; phonology and script. Communication for immediate use. Offered Fall.
Prerequisites: ARB 1020 with a minimum grade of D-
Repeatable for 9 Credits

ARB 3300 Conversation and Composition Cr. 3
Functional usage of language and communication in context. Critical essays written about topics discussed in class to improve writing skills. Offered Fall, Winter.
Prerequisites: ARB 2010 with a minimum grade of D-

ARB 3990 Directed Study Cr. 3-6
Readings, periodic reports and consultations. Offered Every Term.
Repeatable for 9 Credits

ARB 5010 Medieval Arabic Texts Cr. 3
Reading and translation of Arabic Medieval texts. Literature, language, religion and biography. Offered Yearly.
Prerequisites: ARB 2010 with a minimum grade of D-

ARB 5020 Media Arabic Cr. 3
Language pertinent to media communications: written, visual and audio material. Background in origin and development of journalism in the Arab world. Current major newspapers and magazines used as basic reading materials. Offered Winter.
Prerequisites: ARB 2020 with a minimum grade of D-

ARB 5100 Teaching of Arabic as a Foreign/Second Language (TAFL) Cr. 3
Theoretical and conceptual framework of second language learning. Proper training in pedagogy as related to learning Arabic as a foreign/second language. Offered Yearly.
Equivalent: LIN 5110, NE 5100

ARB 5130 Classical Arabic Literature in Translation Cr. 3
From pre-Islamic period (Jahiliya) to the downfall of the Umayad dynasty in Andalusia (1492). Offered Winter.

ARB 5140 Modern Arabic Literature in Arabic and English Cr. 3
Literature and culture of Arab Nahda period (Renaissance beginning in nineteenth century), down to the present. Fiction, drama, biography, poetry. Course is offered in both Arabic and English. Offered Yearly.

ARB 5210 Arabic Sociolinguistics Cr. 3
Arabic dialectology; Arabic as a minority language in contact. Theories and techniques developed outside Arabic, and their applicability to Arabic situations. Offered Fall.
Equivalent: LIN 5210, NE 5210

ARB 5230 Structure of Arabic Cr. 3
Survey of historical constitution and theoretical structure of Arabic. Offered Yearly.
Equivalent: LIN 5230, NE 5230

ARB 5240 Quranic Arabic Cr. 3
Structures and functions of the language of the Quran. It introduces linguistic, textual, cultural, and aesthetic aspects of this language from the perspective of medieval and modern scholars of Arabic. Offered Fall.
Restriction(s): Enrollment is limited to Graduate or Undergraduate level students.

ARB 5700 Medical Arabic Cr. 3
Students develop a medical Arabic lexicon through conversation, dialogues, role playing, mock medical situations, and writing medical reports. Offered Winter.
Prerequisites: ARB 2010 with a minimum grade of D-

ARB 5990 Directed Study Cr. 1-3
Readings; periodic consultations and reports. Offered Every Term.
Repeatable for 9 Credits

ARB 6700 History of Arabic Cr. 3
History of the evolution of Arabic. Data from phonetics/phonology and morpho-syntax will form the basis of study. Offered Fall.
Equivalent: LIN 6700

ARM - ARMENIAN

ARM 3410 New Soil, Old Roots: The Immigrant Experience Cr. 3
Satisfies General Education Requirement: Civ and Societies (CLAS only), Diversity Equity Incl Inquiry, Foreign Culture, Global Learning Inquiry
Armenian, German, Jewish, Polish, Russian and Ukrainian immigration to the United States, its effects on the cultures (language, literature, religion, politics, music, art and theatre) of these ethnic groups and its influence upon American life. Offered Fall.
Equivalent: GER 3410, POL 3410, RUS 3410, SLA 3410

ASL - ART: SCULPTURE

ASL 2150 Beginning Sculpture Cr. 3
Instruction in traditional techniques and concepts of sculpture including modeling the figure from observation using clay, moldmaking, carving, construction, and casting. Lectures, demonstrations, critiques. Offered Every Term.
Course Material Fees: $115

ASL 3150 Intermediate Sculpture Cr. 3
Contemporary concerns in sculpture. Idea, scale, site, light, movement, and serial forms. Offered Every Term.
Prerequisites: ASL 2150 with a minimum grade of C- and ADR 1050 with a minimum grade of C- or ACO 1200 with a minimum grade of C- or ACO 1230 with a minimum grade of C- or ACO 1270 with a minimum grade of C-
Course Material Fees: $90

ASL 3170 Figurative Sculpture I Cr. 3
Instruction in traditional, representational, figurative sculpture. Historical examples, concepts and techniques. Basic anatomy, observation, modeling, gesture, proportion, plane, volume, mass, texture, portraiture; use of calipers, armatures, and moldmaking. Carving, construction, and casting are optional. Offered Fall.
Prerequisites: ASL 2150 with a minimum grade of C- and ADR 1050 with a minimum grade of C- or ACO 1200 with a minimum grade of C- or ACO 1230 with a minimum grade of C- or ACO 1270 with a minimum grade of C-
Course Material Fees: $90

ASL 3190 Sculpture Foundry I Cr. 3
Creation of sculpture using metal. Bonded-sand and investment casting using bronze and aluminum; chasing and patinas; oxy-acetylene, stick, mig, and tig welding; plasma cutting. Offered Yearly.
Prerequisites: ASL 2150 with a minimum grade of C- and ADR 1050 with a minimum grade of C- or ACO 1200 with a minimum grade of C- or ACO 1230 with a minimum grade of C- or ACO 1270 with a minimum grade of C-
Course Material Fees: $115

ASL 5150 Advanced Sculpture Cr. 3
Development of personal and professional body of work. Discussions, lectures, assignments. Offered Every Term.
Prerequisites: ASL 3150 with a minimum grade of C-
Course Material Fees: $90
Repeatable for 9 Credits

ASL 5170 Figurative Sculpture II Cr. 3
Emphasis on advanced and self-directed problems in figurative sculpture. Offered Yearly.
Prerequisites: ASL 3170 with a minimum grade of C-
Course Material Fees: $90
Repeatable for 9 Credits

ASL 5180 Sculpture: Advanced Technology Cr. 3-6
One major project, which explores the application of non-traditional materials and technologies: research, industrial liaisons, equipment. Offered Intermittently.
Prerequisite: ASL 5170 with a minimum grade of C-
Restriction(s): Enrollment is limited to students in the Department of Art and Art History; enrollment limited to students in a Bachelor of Arts, Bachelor of Fine Arts, Master of Arts or Master of Fine Arts degrees.
Course Material Fees: $200
Repeatable for 12 Credits

ASL 5190 Sculpture Foundry II Cr. 3
Development of ideas and skills using either casting or fabrication or both. Offered Yearly.
Prerequisites: ASL 3190 with a minimum grade of C-
Course Material Fees: $115
Repeatable for 9 Credits

ASL 5810 Special Topics in Sculpture Cr. 3
Topics to be announced in Schedule of Classes. Offered Intermittently.
Prerequisites: ADR 1050 with a minimum grade of C- or ACO 1200 with a minimum grade of C- or ACO 1230 with a minimum grade of C- or ACO 1270 with a minimum grade of C-
Course Material Fees: $90
Repeatable for 9 Credits

ASL 5820 Directed Projects Cr. 3-6
Independent projects done in consultation with instructor. Offered Fall, Winter.
Course Material Fees: $90
Repeatable for 9 Credits

ASL 7150 Graduate Sculpture Cr. 3
Graduate-level problems. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students in the Department of Art and Art History; enrollment limited to students in a Master of Arts or Master of Fine Arts degrees.
Course Material Fees: $90
Repeatable for 9 Credits

ASL 8820 MFA Studio: Sculpture Cr. 3-9
Extended problems in sculpture; individual research with eighteen to twenty-seven hours of laboratory per week. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students in the Department of Art and Art History; enrollment limited to students in a Master of Fine Arts degree.
Course Material Fees: $90
Repeatable for 36 Credits

ASN - ASIAN STUDIES

ASN 1700 East Asia to the 1700s Cr. 3
Satisfies General Education Requirement: Social Inquiry
From antiquity to the 1700s; emphasis on political, economic, social, and cultural developments in China, Japan, and Korea, and the nature and impact of their interactions. Offered Intermittently.
Equivalent: HIS 1700

ASN 1710 History of Modern East Asia Cr. 3
Satisfies General Education Requirement: Global Learning Inquiry, Historical Studies, Social Inquiry
From beginning of nineteenth century to the present; emphasis on political, social and economic developments in China, Japan and Korea. Offered Yearly.
Equivalent: HIS 1710

ASN 2800 Culture Studies in Japan (Homestay and Study Abroad Tour) Cr. 3
Satisfies General Education Requirement: Cultural Inquiry
Survey of Japanese culture taught in English. Introduction of family and group organization, customs, pop culture (fashion/music/films), aspects of daily lives (thought/religion/arts/society), and a brief modern history. Also, survival language practice. Offered Spring/Summer.
Prerequisites: JPN 1010 with a minimum grade of D-
Equivalent: JPN 2800

ASN 3770 Politics of East Asia Cr. 4
Survey of five major polities in East Asia: China, Taiwan, Japan, South Korea, and (more briefly) North Korea. Why some of them have undergone democratization and others have not; how political factors have affected their recent economic performance; what explains conflicts and cooperation among them, and what security implications they hold for the United States. Offered Every Other Year.
Restriction(s): Enrollment is limited to Undergraduate level students.
Equivalent: PS 3770

ASN 3870 History of Japanese Pop Culture Cr. 3
Explores the history of Japanese pop culture and its global spread, with both an emphasis on historical influences, intended messages, and appeal in Japan and around the world, and examination of manga, anime, video games, sports, fashion, literature, music, film, and food. Offered Every Other Year.

ASN 3995 Special Topics in East Asian Studies Cr. 3
Special topics in Asian Studies language, literature, or culture. Offered Yearly.
Repeatable for 6 Credits

ASN 5825 Readings in the History of Modern China Cr. 4
From early 1600s to the present; political, economic, and social changes. Offered Every Other Year.
Equivalent: HIS 5825

ASN 5855 Pre-Modern Japan Cr. 4
Japanese history from its mythical origins to early nineteenth century; political, economic, social, cultural developments. Offered Every Other Year.
Equivalent: HIS 5855

ASN 5865 Modern Japan Cr. 4
Japanese history from the early nineteenth century to the present; emphasis on political, economic, and social developments. Offered Yearly.
Equivalent: HIS 5865

ASN 5875 Gender in Modern East Asia Cr. 4
History of gender in China, Japan, and Korea, with topics to include Confucianism, the state's role in gender construction, nationalism, imperialism, marriage, family, labor, sexuality, and feminism. Offered Every Other Year.
Equivalent: GSW 5875, HIS 5875

ASN 5993 Writing Intensive Course in Asian Studies Cr. 0
Satisfies General Education Requirement: Writing Intensive Competency
Disciplined writing assignments under the direction of a faculty member. Must be selected in conjunction with a designated corequisite. Satisfies the University General Education Writing Intensive Course in the Major requirement. Required for all majors. Offered Every Term.
Restriction(s): Enrollment is limited to Undergraduate level students.

AST - ASTRONOMY

AST 2010 Descriptive Astronomy Cr. 4
Satisfies General Education Requirement: Natural Scientific Inquiry, Physical Sciences
Lecture course that introduces the concepts and methods of modern astronomy, the solar system, stars, galaxies, and cosmology; recent discoveries about planets, moons, the sun, pulsars, quasars, and black holes. Meets General Education Laboratory requirement only when taken with Coreq: AST 2011. Offered Every Term.

AST 2011 Descriptive Astronomy Laboratory Cr. 1
Laboratory exercises and observations; includes two late evening viewing sessions. Satisfies General Education Laboratory requirement when taken concurrently with AST 2010. Offered Every Term.
Prerequisite: (AST 2010 (may be taken concurrently) with a minimum grade of C or AST 5010 (may be taken concurrently) with a minimum grade of C) or PHY 5010 (may be taken concurrently) with a minimum grade of C
Course Material Fees: $25

AST 4100 Astronomical Techniques Cr. 3
Techniques of modern astrophysics. Detectors used in astronomy for optical and infrared photons, radio and microwaves, X- and gamma rays, and neutrinos. Techniques in imaging, photometry, spectroscopy, astrometry, polarimetry, and for analyzing public data available on the web. Offered Fall.
Prerequisites: PHY 2180 with a minimum grade of C- and PHY 2181 with a minimum grade of C-
Restriction(s): Enrollment is limited to Undergraduate level students.

AST 4200 Astronomical Laboratory Cr. 2
Satisfies General Education Requirement: Writing Intensive Competency
Introduction to laboratory techniques of modern astrophysics. Optical astronomy, including measurement of the quantum efficiency of a CCD-based astronomical digital camera; measurement of the throughput as a function of wavelength of a set of standard astronomical filters; measurement of the HR diagram of a star cluster using the calibrated camera and filters. Offered Fall.
Prerequisites: AST 4100 with a minimum grade of D-
Course Material Fees: $25

AST 4300 Planetary Astronomy and Space Science Cr. 3
Formation and evolution of the solar system: planetary surfaces, interiors, atmospheres, and magnetospheres; asteroids, comets, planetary satellites, and ring systems. Emphasis on using basic physics to understand observed properties of the solar system. Offered Winter.
Prerequisites: PHY 2180 with a minimum grade of C- and PHY 2181 with a minimum grade of C-

AST 5010 Astrophysics and Stellar Astronomy Cr. 3
Electromagnetic radiation and matter; solar characteristics; stellar distances; magnitudes; spectral classification; celestial mechanics; binary stars; stellar motions, structure and evolution; compact and variable stars; Milky Way Galaxy and interstellar medium; galaxies and clusters of galaxies; quasars; Hubble's Law; cosmology. Offered Every Other Winter.
Prerequisites: PHY 2140 with a minimum grade of C- or PHY 2180 with a minimum grade of C- and MAT 2010-6XXX with a minimum grade of C-
Equivalent: PHY 5010

AST 5100 Galaxies and the Universe Cr. 3
Exploration of the world of galaxies, starting with the Milky Way and moving outward to larger scales. Basic properties of galaxies: galaxy classification, structure, evolution, observations of Active Galactic Nuclei (AGN), Quasar, and Seyfert galaxies. Discovery of dark matter and black holes. Cosmology: origins of the universe in a hot big bang; its expansion history including recent evidence that the cosmic expansion is accelerating; the cosmic microwave background, and the ultimate fate of the universe. Capstone course for astronomy majors. Offered Winter.
Prerequisites: PHY 3300 with a minimum grade of C-

ATR - ATHLETIC TRAINING

ATR 5110 Pathophysiology of Sports Injuries Cr. 3
Explores musculoskeletal sports injury from a pathophysiological and pathomechanical perspective. The effects of acute trauma and repetitive stress on the musculoskeletal system are examined. Additionally, the pathophysiology of sports related concussion is explored. Cumulative emphasis is placed on the evaluation process contributing to the foundational level of differential diagnosis. Offered Spring/Summer.
Restriction(s): Enrollment is limited to students with a major in Athletic Training.

ATR 5115 Acute Care of Athletic Injuries Cr. 3
Students will develop an understanding of fundamental clinical practice concepts utilized by athletic trainers in the prevention, recognition, treatment and disposition of acute athletics-related illnesses and injuries. Emphasis is placed on the implementation of the emergency action plan and on-field/on-site assessment. Students will cultivate practical skills necessary for emergent care while developing the foundational level of differential diagnosis for acute injury/and illness. Offered Spring/Summer.
Restriction(s): Enrollment is limited to students with a major in Athletic Training.
Course Material Fees: $30

ATR 5125 Orthopedic Assessment Cr. 3
Addresses assessment of musculoskeletal and orthopedic related impairments and injury. Focuses on the evaluation process and diagnostic procedures associated with clinical reasoning and the development of differential diagnosis for clinical application. Offered Fall.
Prerequisite: ATR 5110 with a minimum grade of C and ATR 5115 with a minimum grade of C

ATR 5130 Therapeutic Interventions I Cr. 3
A lecture and lab experience, focused on the principles and procedures for the selection and application of physical agents and mechanical techniques, essential for the management of musculoskeletal injury and/or dysfunction. Evidence-based practice (EBP) will be integrated throughout the course to enhance the development of treatment plans and clinical application. Offered Fall.

ATR 5135 Evidence-Based Practice in Athletic Training Cr. 3
Introduces the concepts of evidence-based medicine and provides the student with information on how evidence-based medicine can affect the clinical practice of athletic training and enhance the care given to patients. Offered Fall.
Restriction(s): Enrollment is limited to students with a major in Athletic Training.

ATR 5140 Clinical Gross Anatomy Cr. 3
Comprehensive review of human anatomy as it pertains to athletic training clinical practice. Students will develop an understanding of human anatomy and its relationship to etiology, evaluation, diagnosis, treatment, and rehabilitation of various medical conditions. Course content will emphasize, but is not limited to, the muscular, skeletal, nervous, and vascular systems. Prosected human cadavers, plastinated specimens, anatomical models, and computerized software/imaging will be used as instructional methods. Offered Winter.
Course Material Fees: $220

ATR 5145 Therapeutic Interventions II Cr. 3
Provides conceptual and practical application of therapeutic interventions addressing musculoskeletal and orthopedic related conditions. Students will determine therapeutic intervention care plans consistent with patient-centered functional outcomes. Specific emphasis will be placed on therapeutic and corrective exercise. Offered Winter.

ATR 5149 Pre-Season Integrative Experience I Cr. 1
Provides a supervised clinical experience emphasizing acute injury management, pathology, and prevention, designed to satisfy clinical education requirements for the professional athletic trainer. As a part of this experience, students will be assigned to a preceptor at an approved clinical site, which may include intercollegiate, interscholastic, recreational, or professional sports organizations and/or healthcare facilities. Offered Spring/Summer.
Restriction(s): Enrollment is limited to students with a major in Athletic Training.
Course Material Fees: $50

ATR 5150 Integrative Experience in Athletic Training I Cr. 4
Provides a clinical experience designed to satisfy the clinical education requirements for a professional level AT curricular program. As a part of this experience, students will be supervised by a preceptor at an approved clinical site. Specific emphasis will be placed on taping and bracing techniques, acute care of athletic injuries and the injury evaluation process. Clinical skill integration and competency completion appropriate for current level of didactic coursework and clinical integration will be assessed. Offered Fall.
Prerequisite: ATR 5149 with a minimum grade of C
Course Material Fees: $50

ATR 5151 Integrative Experience in Athletic Training II Cr. 4
Provides a clinical experience designed to satisfy the clinical education requirements for a professional level AT curricular program. As a part of this experience, students will be supervised by a preceptor at an approved clinical site. Specific emphasis will be placed on orthopedic evaluation, the clinical diagnosis process and the clinical application of therapeutic modalities. Clinical skill integration and competency completion will be assessed. Offered Winter.
Course Material Fees: $50

ATR 5159 Pre-Season Integrative Experience II Cr. 1
Students will engage in a second-year clinical experience, participating in a pre-season training camp. The experience will be designed to increase clinical competence concurrent with didactic material. This course provides a clinical field experience emphasizing progressive athletic training skills and procedures. As part of this experience, students will be assigned to a preceptor at an appropriate clinical site. Students will be assigned to intercollegiate, interscholastic, or professional sports organizations, rehabilitation facilities, or other health care facilities. Offered Spring/Summer.
Restriction(s): Enrollment is limited to students with a major in Athletic Training.
Course Material Fees: $50

ATR 5215 Medical and Pharmacologic Interventions Cr. 3
Presents the practical components of clinical medicine to include pathology and pharmacology management of acute and chronic illnesses and injuries seen in the physically active. Offered Spring/Summer.
Prerequisite: ATR 5130 with a minimum grade of C and ATR 5145 with a minimum grade of C

ATR 5225 Organization and Administration in Athletic Training Cr. 3
Students will be acquainted with the proper organization and management techniques utilized by certified athletic trainers in health care administration of athletic training programs. Offered Fall.
Prerequisite: ATR 5140 with a minimum grade of C and ATR 5145 with a minimum grade of C and ATR 5215 with a minimum grade of C

ATR 5230 Transition to Practice Cr. 3
Students will engage in cumulative curricular clinical based scenarios encompassing all the domains of practice to prepare for the BOC exam. Exam preparedness will be evaluated and concurrent study strategies will be explored. Students will gain an understanding of the history and rationale for a variety of contemporary approaches, treatments and therapies in athletic training, while developing critical thinking skills for application, consistent with evidence based practice. Final mastery of professional competencies will be completed, demonstrating clinical skill readiness for transition to practice. Offered Winter.
Prerequisite: ATR 5151 with a minimum grade of C
Corequisite: ATR 5252

ATR 5250 Interprofessional Practice Experience Cr. 2
Exposes students to the clinical practices of multiple medical and allied health professions in addition to the certified athletic trainer. A directed clinical/field experience under the supervision of a preceptor designed to satisfy the clinical education requirements for the entry-level athletic trainer. Also, will assess specific clinical proficiencies required for the practice of athletic training. Offered Spring/Summer.
Prerequisite: ATR 5151 with a minimum grade of C
Corequisite: ATR 5215

ATR 5251 Integrative Experience in Athletic Training III Cr. 4
Provides a field experience emphasizing therapeutic exercise prescription and techniques, general medical conditions, and pharmacologic interventions. A directed clinical/field experience designed to satisfy the clinical education requirements for the entry-level athletic trainer. As part of this experience, students will be assigned to a preceptor at an appropriate clinical site. Students will be assigned intercollegiate, interscholastic, or professional sports organizations, rehabilitation facilities, or other health care facilities. Course also will assess specific clinical proficiencies required for the practice of athletic training. Offered Fall.
Prerequisite: ATR 5140 with a minimum grade of C and ATR 5145 with a minimum grade of C and ATR 5215 with a minimum grade of C
Course Material Fees: $50

ATR 5252 Clinical Immersion in Athletic Training Cr. 6
Provides a field experience emphasizing administrative and professional aspects of athletic training. A directed clinical/field experience designed to satisfy the clinical education requirements for the entry-level athletic trainer. As part of this experience, students will be assigned to a preceptor at an appropriate clinical site. Students will be assigned intercollegiate, interscholastic, or professional sports organizations, rehabilitation facilities, or other health care facilities. Course also will assess specific clinical proficiencies required for the practice of athletic training. Offered Winter.
Course Material Fees: $50

AUD - AUDIOLOGY

AUD 5400 Introduction to Audiology Cr. 3
Introduction to physics of sound, anatomy of the hearing mechanism, audiometry, hearing aids, habilitation and rehabilitation of the hearing handicapped. Offered Fall, Winter.

AUD 5420 Introduction to Aural Rehabilitation Cr. 3
Principles and practices of aural rehabilitation including hearing aids. Offered Winter, Spring/Summer.
Prerequisites: AUD 5400 with a minimum grade of D-

AUD 6000 Electrophysiological Procedures Cr. 4
Two distinct electrophysiological procedures, auditory evoked potentials and otoacoustic emissions, are presented. Both procedures consist of several sub-tests used to assess the auditory system from the middle ear to the cortex, in normal and disordered ears. Offered for graduate credit only. Offered Spring/Summer.
Prerequisite: AUD 5400 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

AUD 6030 Instrumentation in Audiology Cr. 3
Operation, hook-up, scientific notation, systems of measurement, calibration and repair of instruments and software used in clinical audiology. Offered for graduate credit only. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students.

AUD 6040 Auditory and Vestibular Pathologies Cr. 4
Disorders of the auditory and vestibular systems. Etiology, pathological characteristics, medical and non-medical therapies.. Offered for graduate credit only. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students.

AUD 6310 Audiology Clinical Practicum Series Cr. 3
Progression of knowledge and skill level, from introductory basic clinical skills through advanced clinical protocols for difficult to manage patients. Offered for graduate credit only. Offered Every Term.
Prerequisite: AUD 6410 with a minimum grade of C and AUD 6411 with a minimum grade of C and AUD 6412 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $10
Repeatable for 9 Credits

AUD 6400 Anatomy, Physiology, and Psychophysiology of Audition Cr. 4
Structure and function of the human auditory system. Psychophysical theories of hearing. Offered for graduate credit only. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Audiology or Speech-Language Pathology; enrollment limited to students in a Doctor of Philosophy, Master of Arts or Master of Science degrees.

AUD 6410 Basic Audiologic Evaluation Cr. 3
Principles and application of pure-tone and speech audiometry, clinical masking, and impedance/immittance testing. Offered for graduate credit only. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.

AUD 6411 Audiology Clinical Laboratory I Cr. 2
Development of basic competencies related to clinical procedures and methods for evaluation and treatment of clients; maintenance and use of technology in the university audiology clinic. Student will observe and begin to perform evaluations under faculty supervision. Offered for graduate credit only. Offered Fall.
Prerequisite: AUD 6410 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $135

AUD 6412 Audiology Clinical Laboratory II Cr. 2
Continuation of basic competency development related to clinical procedures and methods for evaluation and treatment of clients, maintenance and use of technology in an audiology clinical practice. Students perform evaluations under faculty supervision. Offered for graduate credit only. Offered Winter.
Prerequisite: AUD 6040 with a minimum grade of C and AUD 6411 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $135

AUD 6413 Audiology Clinical Laboratory III Cr. 2
Continuation of competency development related to clinical procedures and methods for evaluation and treatment of clients, including advanced testing procedures. Course includes a rotating placement at a local health system. Offered for graduate credit only. Offered Spring/Summer.
Prerequisites: AUD 6411 with a minimum grade of B- and AUD 6412 with a minimum grade of B-
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Audiology; enrollment limited to students in the Doctor of Audiology or Doctor of Audiology programs.
Course Material Fees: $135

AUD 6430 Principles of Amplification I Cr. 3
Electroacoustic and clinical aspects of acoustic amplifiers and developmental history of hearing aids. Offered for graduate credit only. Offered Winter.
Prerequisite: AUD 6410 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

AUD 6530 Principles of Amplification II Cr. 3
Fundamentals of digital technology, compression, channeling and programming, and applications to various hearing impairment parameters. Offered for graduate credit only. Offered Fall.
Prerequisite: AUD 6430 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

AUD 7300 Clinical Internship Cr. 3
Supervised observation, training and practice in audiological procedures. Placements in local audiology settings as assigned by clinical rotation coordinator. Offered Every Term.
Prerequisite: AUD 5400 with a minimum grade of C and AUD 6410 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 12 Credits

AUD 7320 Issues, Ethics and Scope of Practice in Audiology Cr. 2
Code of Ethics and Scope of Practice as published by the professional organizations for audiology. Issues and case studies in ethical practice, malpractice, legal responsibilities, best practice, and counseling. Offered Spring/Summer.
Prerequisite: AUD 6000 with a minimum grade of C and AUD 6430 with a minimum grade of C and AUD 8430 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 8 Credits

AUD 7350 Contemporary Issues in Audiology Cr. 1-4
Integrated seminar; topics announced in Schedule of Classes. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 16 Credits

AUD 7420 Hearing Loss Prevention Programs Cr. 3
Assessment of damage risk criteria for noise-induced hearing loss. Implementation and management of hearing loss prevention programs in industry, schools, and community settings. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students.

AUD 7430 Pediatric Audiology Cr. 3
Introduction to embryology, tests, test procedures, and counseling of parents with hearing-handicapped children. Offered Spring/Summer.
Prerequisite: AUD 6410 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

AUD 7500 Aural Rehabilitation Cr. 3
Treatment procedures, measurement and electrophysiological instrumentation, ethical dilemmas. Offered Spring/Summer.
Prerequisite: AUD 5420 with a minimum grade of C and AUD 6430 with a minimum grade of C and AUD 6530 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

AUD 7520 Counseling in Audiology Cr. 1
Basic counseling principles and techniques applied to patients and their family members during evaluation and treatment of auditory and balance disorders. Offered Spring/Summer.
Prerequisite: AUD 6410 with a minimum grade of C and AUD 6411 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students in the Department of Communication Sci & Disorders.

AUD 7540 Genetic Auditory Disorders Cr. 3
Medical genetics and its application to hearing loss and craniofacial disorders; genetic etiology, diagnosis, therapeutic implications. Ethical, legal and social issues: cloning, gene therapy, and prevention. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major, minor, or concentration in Audiology , Communication Sci & Disorders, Comm Sci & Disorders Honors or Speech-Language Pathology.

AUD 7550 Intra-operative Neurophysiologic Monitoring Cr. 2
Presentation of the techniques used to monitor neurological centers during head/neck surgery. Operating room observations required. Offered Spring/Summer.
Prerequisite: AUD 6000 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major, minor, or concentration in Audiology , Communication Disorders&Sci or Commun Disorders&Sci Hon.

AUD 7990 Directed Study Cr. 1-3
Literature review of an approved topic in audiology under supervision of the graduate faculty. Course may include an experimental investigation. Comprehensive written report is required. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 6 Credits

AUD 8300 Audiology Fellowship Cr. 8
Advanced supervised clinical practice in an off-campus setting over the final three semesters of professional study. Offered Every Term.
Prerequisite: AUD 7300
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 24 Credits

AUD 8350 Research Seminar Cr. 3
Topics announced in Schedule of Classes. Emphasis on clinical research methods. Offered Yearly.
Prerequisite: SLP 7000 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 15 Credits

AUD 8430 Equilibrium/Vestibular System Evaluation Cr. 4
Anatomy, physiology and functional assessment of the vestibular system including instrumentation, procedures, and interpretation of ENG, dynamic posturography, and rotational velocity testing recordings. Hands-on laboratory exercises included. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.

AUD 8440 Medical Issues: Tinnitus, Central Auditory Processing and Auditory Neuropathy Cr. 3
Role of the audiologist in the medical setting; advanced clinical skills and knowledge; health care issues and professional interaction in the medical setting. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.

AUD 8450 Advanced Auditory/Vestibular Electrodiagnosis for Balance Assessment and Treatment Cr. 4
Advanced evaluation of dizzy/balance patients; traditional test battery use with complex balance patients; recently developed electrophysiological techniques and computerized assessments; expansion of clinical and technical skills; walking and gait analysis. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students.

AUD 8460 Advanced Sensory Aids Cr. 3
New developments in assisted listening devices and cochlear implant protocols. Offered Winter.
Prerequisite: AUD 6530 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

BA - BUSINESS ADMINISTRATION

BA 1000 Student Success and Career Development for Business Students Cr. 1
Designed to assist all incoming Mike Ilitch School of Business students in a successful transition to Wayne State University through interactive exercises and engaging assignments, student will develop the insights, skills and attitudes necessary for becoming a successful student. Offered Fall, Winter.
Restriction(s): Enrollment limited to students in the School of Business.

BA 1010 Critical Thinking for Consumer Decisions Cr. 3
Satisfies General Education Requirement: Critical Thinking Competency
Development of critical thinking skills and the application of these skills in evaluation and decisions for a broad range of consumer issues including advertising interpretations, purchase decisions, job applications, and consumer protection. Offered Every Term.
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the Fine, Performing & Comm. Arts or School of Business.

BA 1040 Managing Diversity in the Workplace Cr. 3
Satisfies General Education Requirement: Diversity Equity Incl Inquiry
This course prepares students to become effective coworkers and managers in today's diverse workplace. Traditional management theories are analyzed within a multicultural framework and students will be exposed to current diversity management practices in the field. Practical and experiential activities designed to help students understand the concepts are provided. Offered Yearly.

BA 1100 Warrior Success Cr. 1
Satisfies General Education Requirement: Wayne Experience
Designed to assist newly admitted students in becoming socialized and acclimated to Wayne State University. Offered Fall, Winter.
Restriction(s): Enrollment limited to students with a class of Freshman.

BA 1200 Personal Finance Planning Cr. 3
Satisfies General Education Requirement: Quantitative Experience Comp
Introductory course designed to help students become financially literate and make proper financial decisions encountered in everyday life. Topics covered will include income, money management, spending and credit, as well as saving and investing. No credit after former FIN 3050. Offered Fall, Winter.

BA 1500 Business Tools and Applications Cr. 3
Integrated business computer concepts and business applications and tools to solve business problems. Offered Every Term.
Corequisite: BA 2300
Restriction(s): Enrollment limited to students in the School of Business.

BA 2020 Introduction to Business Cr. 2
Introduction to each of the functional areas of business including marketing, accounting, finance operations and human resources management. Other topics considered include: the economic and legal environment of business, the globalization of markets, workforce diversity, leadership and entrepreneurship. Offered Every Term.

BA 2300 Quantitative Methods I: Probability and Statistical Inference Cr. 3
Satisfies General Education Requirement: Quantitative Experience Comp
Measures of central tendency and dispersion. Introduction to probability; normal, binomial, uniform, and Poisson distributions. Statistical inference and sampling methods. Computer techniques. Offered Every Term.
Corequisite: BA 1500
Restriction(s): Enrollment limited to students in the School of Business.

BA 3400 Quantitative Methods II: Statistical Methods Cr. 3
Uses of statistical techniques in business. Topics include: sampling, hypothesis testing, confidence interval estimation, regression, analysis of variance and chi-square tests. Application to accounting, market research, finance, production and forecasting. Computer techniques. Offered Every Term.
Prerequisites: BA 2300 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

BA 6000 Introduction to Accounting and Financial Reporting Cr. 2
Introduction to accounting principles and the understanding and analysis of financial statements. Offered for graduate credit only. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Business.

BA 6005 Basics of Financial Management Cr. 2
Basic aspects of finance: time value of money, financial markets, risk and return, valuation and basic capital budgeting. Required of all graduate students; may be waived only through waiver exam. Offered for graduate credit only Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Business.

BA 6010 Basics of Business Economics Cr. 2
Survey course; fundamental principles that guide decision making in market-based economic systems. Offered for graduate credit only. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Business.

BA 6015 Marketing Foundations Cr. 2
Fundamental principles that guide decision making in market-based management systems. Offered for graduate credit only. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Business.

BA 6020 Contemporary Principles of Management Cr. 2
Basic principles of organization theory and behavior in contemporary organizational settings. Offered for graduate credit only. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Business.

BA 6025 Basics of Production/Operations Management Cr. 2
Overview of operations management from a strategic perspective. Emphasis on problems and their solutions. Offered for graduate credit only. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Business.

BA 6030 Budgeting, Operations and Grants Cr. 2
Introduction to accounting and financial reporting and understanding of budgeting, capital planning and grants management. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Business.

BA 6090 Quantitative Analysis: Theory and Application Cr. 2
Statistics of association and statistical inference from samples. Correlation, analysis of variance, multivariate regression, non-parametric statistics. Offered for graduate credit only. Offered Every Term.
Prerequisites: MAT 1500-6XXX with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Business.

BA 7000 Managerial Accounting Cr. 3
Fundamental principles; preparation and utilization of financial information for internal management purposes. No credit after ACC 6020. No credit for undergraduate accounting majors. Offered Every Term.
Prerequisites: BA 6000 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Business.

BA 7020 Corporate Financial Management Cr. 3
Development of tools to evaluate investment and financial decisions in modern global organizations. Offered Every Term.
Prerequisites: BA 6005 with a minimum grade of C and BA 6010 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Business.

BA 7040 Managing Organizational Behavior Cr. 3
Contemporary issues in managing and leading people and organizations. Topics include: creativity, culture change, leadership, teamwork, cross-cultural factors, performance management, and organizational change. No credit for undergraduate management majors. Offered Every Term.
Prerequisites: BA 6020 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Business.

BA 7050 Marketing Strategy Cr. 3
Application of theory, concepts, and models to contemporary marketing issues and problems. Developing and evaluating successful marketing strategies through analysis of customers, competitors, the organization, and the external environment. No credit for undergraduate marketing majors. Offered Every Term.
Prerequisites: BA 6015 with a minimum grade of C and BA 6025 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Business.

BA 7070 Social Perspectives on the Business Enterprise Cr. 3
Political, social, legal, ethical, regulatory, environmental, and global issues that interrelate with business decisions in the societal fabric. Offered Every Term.
Prerequisites: BA 6090 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Business.

BA 7080 Strategic Management Cr. 3
Application of theory and concepts regarding strategic formulation and implementation from the perspective of senior management, to integrate the functional areas and provide a unified direction for the firm when it is operating in complex local and/or global environments. Offered Every Term.
Prerequisites: BA 7000 with a minimum grade of C and BA 7020 with a minimum grade of C and BA 7040 with a minimum grade of C and BA 7050 with a minimum grade of C and BA 7070 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Business.

BA 7500 Topics in Business Administration Cr. 3
Selected topics in business administration. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Business.

BA 7995 Directed Study Cr. 1-3
Advanced independent readings and research under supervision of a graduate faculty member, in areas of special interest to student and faculty member. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.

BA 8050 Seminar in Marketing Theory Cr. 3
Reading seminar; approaches to marketing and consumer behavior theory from historical and philosophy of science perspectives. Contributions from disciplines such as international business, economics, psychology, sociology, anthropology, operations research, and psychometrics. Publishable paper expected of students. Offered Every Other Year.
Prerequisites: BA 7050 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the PhD in Business Administration program.

BA 8054 Seminar in Marketing Strategy Cr. 3
Seminar focuses on strategic marketing issues, including marketing strategy theory; innovation theory; corporate, business, and marketing strategy; new product development strategy; industry structure, competition, and competitive advantage; market orientation; alliances and inter-organizational relationships; knowledge management and organizational learning; customer relationship management; and marketing organization. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.

BA 8058 Advanced Topics in Consumer Behavior Cr. 3
Role of consumer in global economy; integrated marketing issues (IMC), movement toward relationship marketing (RM) across the value added chain to the development of consumer analysis. Conditions, issues, and practices; dimensions of strategic advertising. Offered Yearly.
Prerequisites: BA 8050 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the PhD in Business Administration program.

BA 8120 Theory of Finance Cr. 3
Modern corporate finance theory for finance doctoral students. Offered Yearly.
Prerequisites: FIN 7220 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

BA 8121 Seminar in Corporate Finance Cr. 3
Theoretical and empirical studies in corporate finance for finance doctoral students. Offered Yearly.
Prerequisites: BA 8120 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the PhD in Business Administration program.

BA 8122 Empirical Methods in Finance Cr. 3
Fundamental asset pricing theories and empirical methods used in modern financial economics for finance doctoral students. Offered Yearly.
Prerequisites: BA 8120 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the PhD in Business Administration program.

BA 8123 Seminar in Corporate Governance Cr. 3
Theories and empirical studies in corporate finance for finance doctoral students. Offered Yearly.
Prerequisites: BA 8120 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Business.

BA 8129 Development of an Effective Research Program in Finance Cr. 3
The primary purpose of this doctoral research seminar is to facilitate the development of doctoral students' research ideas. One of these ideas should be developed into a full paper with the aim of submitting it to a peer-reviewed journal. Other aims of this seminar include: socializing students to the practices of the academy in the U.S., familiarizing students with major streams of research, preparing students for the dissertation process, and helping students to develop presentation skills. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.

BA 8220 Seminar in Organizational Behavior Cr. 3
Areas such as motivation, reward systems, leadership, organizational culture and performance, job design, groups and teams, and decision making. Concepts, theories and fundamentals of organizational behavior (OB); areas of current research, application in global business environment. Offered Yearly.
Prerequisites: BA 7040 with a minimum grade of C or MGT 7640 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the PhD in Business Administration program.

BA 8221 Seminar in Strategic Management Cr. 3
Theories and concepts in the strategic management literature including contemporary concepts that apply to the international context. Offered Yearly.
Prerequisites: BA 8220 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the PhD in Business Administration program.

BA 8420 Seminar in Organizational Theory Cr. 3
Theories of organization for doctoral students. Offered Yearly.
Prerequisites: BA 8220 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the PhD in Business Administration program.

BA 8777 Professional Development Seminar for Business Doctoral Students Cr. 1-3
Exposure to professional development areas in preparation for productive academic careers; teaching, research writing, and academic culture. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 3 Credits

BA 8900 Development of Effective Research Programs in Business Cr. 3
For doctoral students with a major cognate in finance, management, or marketing. Development, design and execution of effective research projects. Offered Yearly.
Prerequisites: BA 8058 with a minimum grade of C and BA 8122 with a minimum grade of C and BA 8420 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the PhD in Business Administration program.

BA 8995 Special Research Topics in Business Cr. 1-3
Advanced research topics for business administration Ph.D. students. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the PhD in Business Administration program.
Repeatable for 3 Credits

BA 9990 Pre-Doctoral Candidacy Research Cr. 1-8
Research in preparation for doctoral dissertation. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the PhD in Business Administration program.
Repeatable for 12 Credits

BA 9991 Doctoral Candidate Status I: Dissertation Research and Direction Cr. 7.5
Dissertation research. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students with a class of Doctoral Candidate; enrollment limited to students in the PhD in Business Administration program.

BA 9992 Dissertation II Cr. 7.5
Dissertation research. Offered Every Term.
Prerequisite: BA 9991 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students with a class of Doctoral Candidate; enrollment limited to students in the PhD in Business Administration program.

BA 9993 Dissertation III Cr. 7.5
Dissertation research. Offered Every Term.
Prerequisite: BA 9992 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students with a class of Doctoral Candidate; enrollment limited to students in the PhD in Business Administration program.

BA 9994 Doctoral Candidate Status IV: Dissertation Research and Direction Cr. 7.5
Dissertation research. Offered Every Term.
Prerequisite: BA 9993 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students with a class of Doctoral Candidate; enrollment limited to students in the PhD in Business Administration program.

BA 9995 Candidate Maintenance Status: Doctoral Dissertation Research and Direction Cr. 0
Offered Every Term.
Prerequisite: BA 9994 with a minimum grade of B
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students with a class of Doctoral Candidate; enrollment limited to students in the PhD in Business Administration program.
Course Material Fees: $370.26

BBE - BILINGUAL/BICULTURAL EDUCATION

BBE 5000 Multicultural Education in Urban America Cr. 2
Cultural, social, political and economic realities of our complex, pluralistic society in relation to our education system. Development of analytical and evaluative abilities of teachers to deal with racism, sexism, value clarification and the parity of power. Strategies for multicultural education. Offered Every Term.

BBE 5500 Introduction to Bilingual/Bicultural Education Cr. 3
Survey of the history and legislative background of bilingual/bicultural education in the United States. Emphasis on the foundations, methods, concepts and theories of bilingual/bicultural education. Offered Intermittently.

BBE 6560 Teaching Methods in Bilingual/Bicultural Education Cr. 3
Utilization of traditional and innovative materials, techniques and methods in teaching elementary and secondary school subjects in a bilingual education program. Offered Intermittently.

BBE 6590 Culture and Language in Bilingual/Bicultural Education Cr. 1-3
Research and application of multicultural activities for designing processes to bring language and culture, and instruction in English, into the classroom. Offered Yearly.
Repeatable for 3 Credits

BBE 6600 Internship in Bilingual/Bicultural Teaching Cr. 2-12
Internship in a bilingual, multicultural setting; assessment of the cultural, educational, and linguistic needs of students of limited English-speaking ability. Offered Intermittently.
Repeatable for 12 Credits

BBE 6700 Seminar in Cultural Awareness Cr. 3
Understanding intergroup relations and the appreciation of cultural diversity in a multicultural society such as the United States. Selected topics offered on a semester or yearly basis. Offered Intermittently.

BBE 6850 Applied Linguistics: Issues in Bilingual Education Cr. 3
Current major models of applied English linguistics, contrasting linguistics with special reference to the comparison of English and linguistic minority languages. Offered Yearly.

BBE 9010 Theoretical Implications of Bilingual/Bicultural Education Cr. 3
Theoretical foundations for the development of bilingual/bicultural and multicultural education programs in our schools. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students.

BBE 9030 Advanced Seminar in Bilingual/Bicultural Education Cr. 2-4
Advanced seminar for doctoral students in the bilingual, multicultural education program. Topics to be announced in Schedule of Classes . Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 12 Credits

BE - BASIC ENGINEERING

BE 1001 Engineering Bridge Mentorship Program Participant I Cr. 1
Required peer mentorship program for Engineering Bridge students. Offered Every Term.
Corequisite: BE 1060
Restriction(s): Enrollment is limited to students with a major in Engineering.

BE 1002 Engineering Bridge Mentorship Program Participant II Cr. 0
Required peer mentorship program for Engineering Bridge students. Offered Winter.
Corequisite: BE 1060

BE 1050 Introduction to the Engineering Profession Cr. 2
This course introduces new engineering students to the profession and practice of engineering, the history of engineering, and its various disciplines. The importance of teams to the practice of engineering is demonstrated. Offered Fall.

BE 1060 Building a Foundation for College Success Cr. 1
Satisfies General Education Requirement: Wayne Experience
This course is designed to expose students to the Wayne State University undergraduate experience. Students will gain an understanding of campus resources, institutional values, and the merits of a liberal arts education from an urban research one university. This course will aid in the development of critical and analytical thinking skills necessary for college success while determining one's academic and professional goals. Offered Winter.
Restriction(s): Enrollment limited to students with a class of Freshman.

BE 1101 Introduction to Officership Cr. 1
Classroom introduction to leadership, and the experiential examination of leadership, followership, decision-making, and group accomplishment of tasks. Offered Every Other Year.

BE 1102 Introduction to Leadership Cr. 1
Continuation of B E 1101; focus on communications, leadership, and problem-solving. The light infantry platoon and the troop leading process. Offered Every Other Year.
Prerequisite: BE 1101 with a minimum grade of C-

BE 1200 Basic Engineering I: Design in Engineering Cr. 3
Core principles of engineering practice: design, teamwork, professional ethics. Offered Fall, Winter.
Prerequisite: MAT 1800 (may be taken concurrently) with a minimum grade of C or MAT 2020 (may be taken concurrently) with a minimum grade of C- or MAT 2030 (may be taken concurrently) with a minimum grade of C- or MAT 2010 (may be taken concurrently) with a minimum grade of C-
Course Material Fees: $50

BE 1300 Basic Engineering II: Materials Science for Engineering Applications Cr. 3
Fundamentals of materials science; emphasis on how material properties and behavior affect engineering applications. Offered Every Term.
Prerequisites: CHM 1225 with a minimum grade of C- or CHM 1220 with a minimum grade of C- and CHM 1230 with a minimum grade of C- and May be taken concurrently: BE 1200 with a minimum grade of C- and May be taken concurrently: PHY 2170 with a minimum grade of C- or PHY 2175 with a minimum grade of C- and May be taken concurrently: MAT 2020 with a minimum grade of C-
Corequisite: BE 1310

BE 1310 Materials Science for Engineering: Laboratory Cr. 1
Laboratory component of B E 1300. Offered Every Term.
Corequisite: BE 1300
Course Material Fees: $35

BE 1500 Introduction to Programming and Computation for Engineers Cr. 3
Use of computational tools, such as Excel and MATLAB, to solve engineering problems. Topics include general engineering problem solving, algorithm development, programming, and computational analysis. Offered Fall, Winter.
Prerequisites: MAT 2010 with a minimum grade of C-
Restriction(s): Enrollment is limited to Undergraduate level students.

BE 2100 Basic Engineering III: Probability and Statistics in Engineering Cr. 3
An introduction to application of probability theory and statistical methods in engineering, including design and manufacturing. Offered Every Term.
Prerequisite: MAT 2020 (may be taken concurrently) with a minimum grade of C-

BE 2201 Innovative Tactical Leadership Cr. 1
Military organizational leadership with focus on leadership development and interpersonal group dynamics. Offered Every Other Year.
Prerequisite: BE 1102 with a minimum grade of C-

BE 2202 Leadership in Changing Environments Cr. 2
Challenges of leading in complex contemporary operational environments. Cross-cultural challenges of leadership applied to practical Army leadership tasks and situations. Offered Every Other Year.
Prerequisite: BE 1102 with a minimum grade of C-

BE 3000 Engineering Bridge Mentorship Program Leader Cr. 0
Documentation of mentor participation in Engineering Bridge Program. Offered Every Term.
Restriction(s): Enrollment limited to students in the College of Engineering; enrollment limited to students in the following programs: BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering.

BE 3301 Leading Small Organizations I Cr. 2
Leadership development and interpersonal and group dynamics. Methods of visualizing, planning and leading organizations to achieve set goals. Offered Every Other Year.

BE 3302 Leading Small Organizations II Cr. 2
Offered Every Other Year.
Prerequisite: BE 3301 with a minimum grade of C-

BE 3500 Co-Op Record Cr. 0
Engineering practice under supervision in cooperative education program. Offered Every Term.
Restriction(s): Enrollment limited to students in the College of Engineering; enrollment limited to students in the following programs: BS in Chemical Engineering, BS in Civil Engineering, BS in Computer Science, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering.

BE 3510 Co-Op Experience Cr. 1
Engineering practice under supervision in cooperative education program. Written report required. Offered Every Term.
Restriction(s): Enrollment limited to students in the College of Engineering; enrollment limited to students in the following programs: BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering.
Repeatable for 4 Credits

BE 3900 National Design Competition Participant Cr. 0
For engineering undergraduates who are active team members in national engineering design competition projects. Satisfactory completion of this course will document active participation throughout the semester. Offered Every Term.

BE 4401 Leadership and Management Cr. 3
Multiple styles and theories of leadership; ethical decision making, especially as relating to changing organizational and individual behavior; accomplishing goals in resource-constrained environments. Offered Every Other Year.
Prerequisite: BE 3302 with a minimum grade of D-

BE 4402 Military Professionalism and Professional Ethics Cr. 3
Evaluation and assessment of needs of subordinate units and individuals; near-term and short-term plans to address these needs. Analysis of a historical battle as well as analysis of moral and leadership dilemmas in history. Offered Every Other Year.
Prerequisite: BE 4401 with a minimum grade of C-

BE 5900 National Design Competition Projects Cr. 1-4
Primarily for engineering undergraduates who are dedicating a substantial amount of effort towards college-sponsored national design competition projects. Offered Every Term.
Repeatable for 99 Credits

BE 5995 Special Topics in Engineering Cr. 4
Special topics not covered in other courses; topics announced in Schedule of Classes. Offered Every Term.
Repeatable for 99 Credits

BE 5998 Engineering Honors Thesis Cr. 1-4
Completion of required Honors Thesis. Offered for undergraduate credit only. Offered Every Term.
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the College of Engineering; enrollment limited to students in the following programs: BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering.
Repeatable for 99 Credits

BIO - BIOLOGICAL SCIENCES

BIO 1030 Biology Today Cr. 3
Satisfies General Education Requirement: Life Sciences, Natural Scientific Inquiry
Challenges to modern society from population growth, new diseases, environmental degradation, urban pollution; medical advances and ethical dilemmas in decoding human genome; impact of biological findings on political and personal decisions; issues considered in context of principles and strategies of modern biological research. Not for biology major credit. Offered Fall, Winter.

BIO 1050 An Introduction to Life Cr. 4
Satisfies General Education Requirement: Life Sciences, Natural Scientific Inquiry
A factual and conceptual treatment of modern biology at the cell, organismal, and population levels of organization. Meets General Education Laboratory Requirement when elected for 4 credits. No credit after BIO 1500 or BIO 1510. Offered Every Term.
Course Material Fees: $20

BIO 1500 Basic Life Diversity Cr. 4
Satisfies General Education Requirement: Natural Scientific Inquiry
Physiology,ecology, evolution, and systematics, their principles, strategies and outcomes in both structure and function. No credit after former BIO 1520. Offered Every Term.
Prerequisites: BIO 1050 with a minimum grade of C- or BIO Permit to Reg ACT/SAT with a test score minimum of 2 or BIO Permit to Reg-L1-L2 BPE with a test score minimum of 2 or BIO 1510 with a minimum grade of C-
Course Material Fees: $25

BIO 1510 Basic Life Mechanisms Cr. 4
Satisfies General Education Requirement: Life Sciences, Natural Scientific Inquiry
Factual and conceptual treatment of cell molecules, cell structure, metabolism, genetics, and development. For the science major and certain pre-professional programs. Meets General Education laboratory requirement. BIO 1500 and BIO 1510 required of all biological sciences majors. Only Engineering students may elect for three credits. Offered Every Term.
Prerequisites: BIO 1050 with a minimum grade of C- or BIO Permit to Reg ACT/SAT with a test score minimum of 2 or BIO Permit to Reg-L1-L2 BPE with a test score minimum of 2 or BIO 1500 with a minimum grade of C-
Course Material Fees: $25

BIO 2200 Introductory Microbiology Cr. 5
Satisfies General Education Requirement: Life Sciences, Natural Scientific Inquiry
Bacteria and their basic biology; the relationship of microorganisms to man and other living forms, including their ecological importance and their role in the causation of disease; laboratory exercises paralleling the above principles. Offered Every Term.
Prerequisites: BIO 1510 with a minimum grade of C-
Course Material Fees: $60

BIO 2550 Fundamentals of Cell Biology for Neuroscience Cr. 4
This course is designed for undergraduate students majoring in Neuroscience. It introduces the student to the structure and function of the cell, which is the fundamental unit of life, and underlies the functionality of neurons and glia, the cells that make up the brain. Offered Every Term.
Prerequisites: BIO 1510 with a minimum grade of C-

BIO 2600 Introduction to Cell Biology Cr. 3
An advanced introduction to the structural and functional biology of the eucaryotic cell. Molecular, biochemical, and functional material learned in other courses reviewed and synthesized as it related to the cell. Offered Every Term.
Prerequisites: BIO 1500 with a minimum grade of C- and BIO 1510 with a minimum grade of C-

BIO 2870 Anatomy and Physiology Cr. 5
Detailed study of structure and function of the major systems of the body: skeletal, nervous, muscular, endocrine, circulatory, respiratory, digestive, excretory, and reproductive. No major credit for Biological Sciences majors. Offered Every Term.
Prerequisites: BIO 1510 with a minimum grade of C-
Course Material Fees: $30

BIO 3070 Genetics Cr. 5
Transmission, nature and action of genetic material in organisms. Laboratory experiments to demonstrate principles of genetics. Offered for five credits to Honors students only; includes lab experience. Offered Every Term.
Prerequisites: BIO 2600 with a minimum grade of C-

BIO 3100 Cellular Biochemistry Cr. 3
Biosynthesis and metabolism of proteins, carbohydrates, lipids, steroids, amino acids and nucleic acids. The basic principles of enzyme kinetics in living systems. Offered Every Term.
Prerequisites: BIO 2550 with a minimum grade of C- or BIO 2600 with a minimum grade of C- and CHM 1240 with a minimum grade of D- and CHM 1250 with a minimum grade of D-

BIO 3110 Biomolecules to Cell Biology: Mastering Concepts Through Teaching Cr. 2
Provide Honors students with a service learning opportunity (peer mentor/assistant in BIO 1510) that will enhance their knowledge of biology while engaging them with experiences in teaching and interacting with students. Offered Fall, Winter.
Prerequisites: BIO 1510 with a minimum grade of B and BIO 2600 with a minimum grade of B
Corequisite: HON 3000
Repeatable for 4 Credits

BIO 3200 Human Physiology Cr. 3
Basic principles of human physiology, including major systems from a cellular, molecular, and integrative approach. Offered Every Term.
Prerequisites: BIO 2550 with a minimum grade of C- or BIO 2600 with a minimum grade of C- or BIO 2870 with a minimum grade of C-
Restriction(s): Enrollment is limited to Undergraduate level students.

BIO 3500 Ecology and the Environment Cr. 3
Introduction to key ecological concepts illustrated with contemporary environmental issues; basic population, community, ecosystem, landscape, and global ecology. Offered Fall.
Prerequisites: BIO 1500 with a minimum grade of C- and BIO 2600 with a minimum grade of C- or EVS 1500 with a minimum grade of C-
Restriction(s): Enrollment is limited to Undergraduate level students.

BIO 3800 Botany Cr. 3
Introduction to plant morphology, systematics, development, and physiology. Lectures and hands-on laboratory, readings and discussions. Offered Every Other Year.
Prerequisites: BIO 3070 with a minimum grade of C-
Restriction(s): Enrollment is limited to Undergraduate level students.
Course Material Fees: $40

BIO 3990 Directed Study Cr. 1-4
Primarily for biology majors who wish to continue in a field beyond that covered in regular courses; to be taken under direction of Biological Sciences faculty. Offered Every Term.
Repeatable for 8 Credits

BIO 4110 Biomedical Technology and Molecular Biology Cr. 4
Satisfies General Education Requirement: Writing Intensive Competency
General principles of molecular biology of prokaryotes and eukaryotes. Includes structures of DNA, RNA, and protein, DNA replication and repair, transcription and translation, gene regulation and gene expression. Emphasis on applications in medical biology and biotechnology. Fulfills General Education Writing Intensive Course in the Major requirement; each student writes reports and one long research paper on topic approved by instructor, in addition to other course writing requirements. Offered Fall.
Prerequisites: BIO 3070 with a minimum grade of C- and BIO 3100 with a minimum grade of C-

BIO 4120 Comparative Physiology Cr. 4
Satisfies General Education Requirement: Writing Intensive Competency
Physiological processes at the molecular, cellular, and organismal levels. Comparison of major physiological systems across groups of organisms. Lab consists of physiology exercises and lab reports that allow students to explore major conceptual themes in physiology. Fulfills General Education Writing Intensive Course in the Major requirement; each student writes reports, and one long research paper on topic approved by instructor, in addition to other course writing requirements. Offered Every Term.
Prerequisites: BIO 1500 with a minimum grade of C- and BIO 3070 with a minimum grade of C- and BIO 3200 with a minimum grade of C-
Course Material Fees: $20

BIO 4130 General Ecology Cr. 4
Satisfies General Education Requirement: Writing Intensive Competency
Principles of population, community, ecosystem, and landscape ecology. Fulfills General Education Writing Intensive Course in the Major requirement; each student writes reports and one long research paper on topic approved by instructor, in addition to other course writing requirements. Offered Winter.
Prerequisites: BIO 3070 with a minimum grade of C- and BIO 3500 with a minimum grade of C-
Course Material Fees: $20

BIO 4140 Hormones and Behavior Cr. 3
Examines the relationship between hormones and behavior, taking a biological approach to behavioral questions that have long been of interest to Psychologists, Biologists and Neuroscientists. Explores the research area of Behavioral Endocrinology, a field that seeks biologically (in particular hormone)-based explanations of behavior. Offered Winter.
Prerequisite: PSY 1010 with a minimum grade of C- or BIO 1020 with a minimum grade of C-
Equivalent: PSY 4140

BIO 4200 Evolution Cr. 3
Evidence for mechanisms of evolution at the molecular, organismal and population level. Offered Every Term.
Prerequisites: BIO 3070 with a minimum grade of C- and BIO 3100 with a minimum grade of C- or BIO 3200 with a minimum grade of C- or BIO 3500 with a minimum grade of C-

BIO 4340 Regenerative Biology and Medicine Cr. 4
Introduces students specializing in biomedical engineering and premedical students to the conceptual and methodological principles of modern regenerative biology and medicine. Includes a review of research methods and achievements in this field and the translational applications of regenerative biology to tissue engineering and the development of regenerative therapies. Offered Winter, Spring/Summer.
Prerequisite: BIO 2600 with a minimum grade of C-

BIO 4350 Laboratory Research Experience in Molecular Bacterial Genetics Cr. 3
Discovery-based laboratory research experience centered on identification of genes controlling bacterial behavior. Students will identify genes that control the developmental life cycle of a soil bacterium, design experiments to characterize any genes identified, and characterize their role in regulating bacterial behavior. Students will employ a series of common bacteriology and molecular biology techniques including bacterial transformation, phenotypic assays, PCR amplification, cloning, plasmid isolation, immunoblot, and web-based bioinformatic analyses. Offered Intermittently.
Prerequisite: BIO 2200 with a minimum grade of C- and BIO 3070 with a minimum grade of C-
Course Material Fees: $60

BIO 4370 Microbial Communities Cr. 3
An introduction to the concept of microbial communities and their roles in health and the environment. The study of biofilms in disease, microbial communities in the environment, and human/animal microbiota will be covered. Offered Every Other Year.
Prerequisite: BIO 2200 with a minimum grade of C- and BIO 3070 with a minimum grade of C-

BIO 4420 Biogeography Cr. 3
An examination of current and past spatial distributions of biological diversity with an emphasis on the ecological, evolutionary, geological, and climatological processes underlying biogeographic variation. Offered Every Other Year.
Prerequisites: BIO 3500 with a minimum grade of C-
Restriction(s): Enrollment is limited to Undergraduate level students.

BIO 4630 Histology Cr. 4
Characteristics and identification of normal mammalian tissues. Micro-anatomy of the mammal. Functional interpretation of microstructure and fine structure. Offered Winter, Spring/Summer.
Prerequisites: BIO 2600 with a minimum grade of C- or BIO 2870 with a minimum grade of C-
Course Material Fees: $20

BIO 4690 Molecular and Cellular Neurobiology Cr. 3
Focuses on the molecular and cellular aspects of neuronal function, from cellular signaling to sensory and motor function as well as behavior, learning and memory. Also covers the biological aspects of neuronal function, from molecules to cells to systems. Offered Fall.
Prerequisite: BIO 3200 with a minimum grade of C-

BIO 5020 Comprehensive Virology Cr. 3
Course provides students with a comprehensive knowledge of molecular virology, from viral classification, vital structures and life cycles, to host response and global health. Offered for undergraduate credit only. Offered Fall.
Prerequisites: BIO 2200 with a minimum grade of C- and BIO 2600 with a minimum grade of C- and BIO 3070 with a minimum grade of C-
Restriction(s): Enrollment is limited to Undergraduate level students.

BIO 5040 Biometry Cr. 4
Quantitative methods in biology. Statistical approach to data analysis and the design of experiments. Laboratory section permits actual analysis of selected statistical problems. Offered Intermittently.
Prerequisites: BIO 3070 with a minimum grade of C- or BIO 4130 with a minimum grade of C- and MAT 1800-6XXX with a minimum grade of C-
Course Material Fees: $15

BIO 5060 Special Topics Cr. 6
Formalized treatment of the current state of knowledge in a significant area of biology. Topics to be announced in Schedule of Classes. Offered for undergraduate credit only. Offered Intermittently.
Prerequisites: BIO 1500 with a minimum grade of C- and BIO 1510 with a minimum grade of C-
Restriction(s): Enrollment is limited to Undergraduate level students.
Repeatable for 6 Credits

BIO 5080 Cellular Basis of Animal Behavior Cr. 3
Relationship between behavior and neuroscience using a variety of animal models, each examined from the level of natural behavior progressively to the cellular level. Topics include: sensory systems, motor behavior, and learning. Offered Winter.
Prerequisites: BIO 2600 with a minimum grade of C-
Equivalent: PSY 5080

BIO 5100 Aquatic Ecology Cr. 4
Physical, chemical and biological processes occurring in lakes, streams and wetlands. Offered for undergraduate credit only. Offered Every Other Year.
Prerequisites: BIO 1500 with a minimum grade of C- and BIO 3500 with a minimum grade of C-
Restriction(s): Enrollment is limited to Undergraduate level students.
Course Material Fees: $67

BIO 5150 Genomics Cr. 3
Introduction to the theory and practice of genomics. Topics include sequencing and mapping, overview of genomes, comparative genomics, transcriptomes, population genetics and genomics, basic bioinformatics and statistics, population-level variation (SNPs, MNPs, indels), ethics, evolutionary genomics, and functional genomics. Offered for undergraduate credit only. Offered Fall.
Prerequisites: BIO 3070 with a minimum grade of C- and BIO 3100 with a minimum grade of C-
Restriction(s): Enrollment is limited to Undergraduate level students.

BIO 5180 Field Investigations in Biological Sciences Cr. 12
Field studies of one to fifteen weeks, emphasizing biological principles and techniques demonstrated in the field. Offered Intermittently.
Prerequisites: BIO 2200 with a minimum grade of C- or BIO 2600 with a minimum grade of C- and BIO 1500 with a minimum grade of C- and BIO 1510 with a minimum grade of C-
Course Material Fees: $10
Repeatable for 20 Credits

BIO 5240 Molecular Systems Biology Cr. 3
Introduces the basic design principles of biological circuits and networks and their functional designs at the molecular, pathway, whole cell, and population levels. Students will perform a comprehensive group project to build a computational model of a simple biological network. Offered Every Other Year.
Prerequisites: BIO 3070 and PHY 2140

BIO 5280 Bioinformatics Cr. 3
Basic Linux commands and PERL programming skills, sequence comparison, phylogenetic analysis, gene/genome patterns. Offered for undergraduate credit only. Offered Winter.
Prerequisites: BIO 3070 with a minimum grade of C- and BIO 3100 with a minimum grade of C-
Restriction(s): Enrollment is limited to Undergraduate level students.

BIO 5330 Principles and Applications of Biotechnology I Cr. 3
Review of origins of molecular biotechnology and its characteristic technologies; survey of applications of biotechnology to problems in industries. Offered Fall.
Prerequisites: BIO 2200 with a minimum grade of C- and BIO 3070 with a minimum grade of C- and BIO 3100 with a minimum grade of C-

BIO 5440 Terrestrial Ecology Cr. 4
Ecology of forests and grasslands. Field study and interpretation of ecological processes. Importance of species-site relationships and disturbance history. Offered for undergraduate credit only. Offered Every Other Year.
Prerequisites: BIO 1500 with a minimum grade of C-
Restriction(s): Enrollment is limited to Undergraduate level students.
Course Material Fees: $110

BIO 5490 Population and Community Ecology Cr. 3
Population dynamics of animals and plants. Life history theory. Species interactions. Structure and dynamics of communities. Offered for undergraduate credit only. Offered Every Other Year.
Prerequisites: BIO 1500 with a minimum grade of C- and BIO 4130 with a minimum grade of C-
Restriction(s): Enrollment is limited to Undergraduate level students.

BIO 5540 Landscape Ecology Cr. 3
Concepts, methods, and applications of landscape ecology; causes and implications of ecological patterns and heterogeneity on landscapes; interrelationships of patterns and ecological processes. Offered Every Other Year.
Prerequisites: BIO 1500 with a minimum grade of C- and BIO 3500 with a minimum grade of C-
Restriction(s): Enrollment is limited to Undergraduate level students.

BIO 5610 Developmental Biology Lab Cr. 1
Slides, models, and 4-D computer programs used to enable the student to know and recognize the cascade of structural changes that take place during the embryological developmental pathways. Offered Winter.
Prerequisites: May be taken concurrently: BIO 5620 with a minimum grade of C-
Course Material Fees: $40

BIO 5620 Developmental Biology Cr. 3
An analytical and comparative study of genetic and cellular mechanisms and their interaction with environmental factors to effect the developmental mechanisms which produce the adult organism. Origin and unfolding of structural patterns characteristic of different species; their evolutionary origins. Offered Winter.
Prerequisites: BIO 3070 with a minimum grade of C-

BIO 5640 Cancer Biology Cr. 3
Introduction to integrated analysis of cancer and cell biology, pathology, etiology and therapy. Offered Intermittently.
Prerequisites: BIO 2600 with a minimum grade of C- and BIO 3070 with a minimum grade of C- and BIO 3100 with a minimum grade of C-

BIO 5660 Neural Signaling in Health and Disease Cr. 3
Addresses major principles of how various brain systems regulate physiological processes of the body function, both individually and as an integrated unit. Includes principles of physiological communication as it relates to homeostasis, metabolism, and both neural and endocrine communication; emphasis is given not only to major principles but also to how these principles were developed. Topics include (but are not limited to) dysfunction and disorders of the central nervous system (CNS) in the context of signaling pathways and hormonal systems, neurodegeneration, interaction between neurons and glia cells and neuroinflammation. Offered Fall.
Prerequisite: BIO 3200 with a minimum grade of C-

BIO 5680 Basic Endocrinology Cr. 3
Basic description of the human endocrine system, the endocrine control of several physiologic processes (growth, development, metabolism and reproduction), and a description of common endocrine disorders. Offered Fall.
Prerequisites: BIO 3200 with a minimum grade of C- or BIO 4120 with a minimum grade of C-
Equivalent: PSL 5680

BIO 5750 Biology of Longevity and Aging Cr. 3
Longevity, aging and senescence viewed as fundamental biological processes common to most organisms. Data-based discussion of investigative methods and accepted facts regarding the mechanisms underlying longevity and aging, coupled with critical discussion of behavioral and biological interventions known to retard or reverse the aging processes. Systems biology overview of the process, including societal parameters necessary to the maintenance of longevity. Offered for undergraduate credit only. Offered Winter.
Prerequisites: BIO 3070 with a minimum grade of C-
Restriction(s): Enrollment is limited to Undergraduate level students.

BIO 5996 Senior Research Cr. 1-2
Original research. To be taken under direction of Biological Sciences faculty. Offered for undergraduate credit only. Offered Every Term.
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students with a class of Senior.
Repeatable for 3 Credits

BIO 6000 Molecular Cell Biology I Cr. 3
Analysis of cell structure at the molecular and cellular levels and the physiological consequences of these structures: isolation, physico-chemical properties, and biological attributes of cells, organelles, and biopolymers including nucleic acids, proteins, and lipids. Offered Fall.
Prerequisite: BIO 2600 (may be taken concurrently) with a minimum grade of C and BIO 3100 (may be taken concurrently) with a minimum grade of C

BIO 6010 Molecular Cell Biology II Cr. 3
Analysis of cell regulation at the molecular level. Cell development and differentiation. Genetic mechanisms including: DNA synthesis and repair, mechanism of gene expression and control. Offered Winter.
Prerequisite: BIO 6000 with a minimum grade of C-

BIO 6020 Methods of Analyses Cr. 4
Design and execution of experiments in molecular biology. Topics include: laboratory safety, scientific documentation, database searching, development of experimental protocols, error analysis, solutions and buffers, electrophoretic separation of proteins and nucleic acids, basic immunohistochemistry, bioimaging, and scientific ethics. Offered Fall.
Prerequisites: May be taken concurrently: BIO 4110 with a minimum grade of C- (must be taken at WSU) or BIO 5330 with a minimum grade of C- (must be taken at WSU)
Course Material Fees: $50

BIO 6055 Biology of the Eye Cr. 3
Introduction to biology of eye structure/function, and to causes and clinical treatments of eye-related disorders and diseases. Offered for undergraduate credit only. Offered Fall.
Prerequisite: BIO 2600 with a minimum grade of C- and BIO 3100 with a minimum grade of C-
Restriction(s): Enrollment is limited to Undergraduate level students.
Course Material Fees: $25
Equivalent: ANA 6050, PYC 6050

BIO 6060 Molecular Evolution Cr. 3
Patterns and processes of evolutionary change on the DNA sequence level. Emphasis on models of nucleotide substitutions, and genic evolution. Methods of phylogenetic inference. Offered Intermittently.
Prerequisite: BIO 3070 with a minimum grade of C- and (BIO 4200 (may be taken concurrently) with a minimum grade of C-

BIO 6070 Human Genetics Cr. 3
Principles of genetics as applied to humans. Topics include pedigree analysis, simple and complex inheritance patterns, cytogenetics, development and sex determination, role of mutations in disease, genes and cancer, genetic testing and forensics, genomics, linkage, genetics of behavior, and human evolution. Offered Intermittently.
Prerequisite: BIO 3070 with a minimum grade of C-

BIO 6090 Population Genetics Cr. 3
Theoretical bases for microevolutionary change in natural populations of organisms; basic to study of evolutionary genetics and evolutionary ecology. Offered Intermittently.
Prerequisite: BIO 3070 with a minimum grade of C-

BIO 6120 Molecular Biology Laboratory I Cr. 3
Laboratory exercises illustrate methods and concepts of molecular biology and recombinant DNA analysis. Offered Winter.
Course Material Fees: $30

BIO 6160 Proteins and Proteomics Cr. 3
Structure and dynamics of proteins at the molecular level. Strategies used to biochemically purify, analyze, and characterize proteins. Offered Winter.
Prerequisite: BIO 3100 with a minimum grade of C- or CHM 5600 with a minimum grade of C- or CHM 6620 with a minimum grade of C-

BIO 6180 Membrane Biology Cr. 3
Comprehensive analysis of cellular and model membranes integrating molecular structure and physiological properties. Structural, dynamic, and physiological properties examined, including molecular and macromolecular assemblies, physical and chemical analysis of molecular motion, functional aspects including trans-membrane signaling. Offered Intermittently.
Prerequisite: BIO 6000 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students.

BIO 6190 Advanced Special Topics Cr. 6
Formalized treatment of current state of knowledge in a significant area of biology. Topics to be announced in Schedule of Classes. Offered Intermittently.
Repeatable for 6 Credits

BIO 6330 Principles and Applications of Biotechnology II Cr. 3
Application of molecular biology and recombinant DNA technology of contemporary eukaryotic systems. Topics include: specialized application of PCR for cloning, generation of antibodies, the expression of recombinant proteins in cultured cells and transgenic animal models. Offered Winter.
Prerequisite: BIO 5330 with a minimum grade of C-

BIO 6420 Ecotoxicology and Risk Assessment Cr. 3
Provides students with an overview of ecological and environmental aspects of toxicology and pollution biology. The course will emphasize population, community, and ecosystem responses to contaminants. General understanding of ecology, chemistry, and basic statistics is essential. Offered Every Other Winter.
Restriction(s): Enrollment is limited to Graduate level students.

BIO 6620 Advanced Evolution Cr. 3
Continuation of BIO 4130; emphasis on evolutionary biology. Topics include: history of evolutionary thought, origins of life, evolution of the cell, evolution of genes, evolution and behavior, evolution of life history traits, phylogenetics, historical biogeography, tempo and mode of evolution, species concepts and speciation, nature of adaptation and adaptive radiations. Offered Intermittently.
Prerequisite: BIO 4200 with a minimum grade of C-

BIO 6690 Neurobiology I Cr. 3
Electrical and chemical signal transmission and signal processing in the nervous system. Integration of these functions into complex sensory and control mechanisms. Molecular mechanisms of electrical excitability and ion channels, neurotransmitters and receptors, second messengers, and feedback circuits. Neurobiology of motor control, sensory and regulatory systems. Offered Winter.
Prerequisite: BIO 3100 with a minimum grade of C- and (BIO 4120 (may be taken concurrently) with a minimum grade of C-

BIO 6700 Responsible Conduct of Research Cr. 1
Fulfills federal requirements for in person faculty-led training in scientific ethics and responsible conduct of research. Offered Fall.

BIO 6990 Honors Directed Study in Biology Cr. 1-4
To be taken under direction of Biological Sciences faculty. Offered for undergraduate credit only Offered Every Term.
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment is limited to students with a major in Biological Sciences Honors or Biological Sciences; enrollment limited to students in a BS in Biological Science or Bachelor of Arts degrees.
Repeatable for 99 Credits

BIO 6994 Technical Communication in Molecular Biotechnology Cr. 3
Methods of written and oral communication in the biotechnology field. Offered Winter.

BIO 6999 Terminal Essay: Honors Program Cr. 2
Preparation of a terminal essay, satisfactory completion of which assures Honors graduation, providing performance in preceding Honors courses has been at Honors level; to be taken under direction of Biological Sciences faculty. Offered for undergraduate credit only. Offered Every Term.
Prerequisite: BIO 6990 with a minimum grade of C-
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment is limited to students with a major in Biological Sciences Honors.

BIO 7000 Recent Advances in Cellular and Developmental Biology Cr. 3
Formalized and in-depth treatment of the current state of knowledge in a significant area of cell and molecular biology. Topics to be announced in Schedule of Classes . Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 6 Credits

BIO 7011 Principles of Toxicology Cr. 3
Basic concepts and principles of toxicology, including toxicity of major classes of chemicals (pesticides, solvents, metals) and organ systems (renal, immune, digestive, neuro and respiratory) affected. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: PHC 7410

BIO 7020 Comprehensive Virology Cr. 3
Course provides students with a comprehensive knowledge of molecular virology, from viral classification, vital structures and life cycles, to host response and global health. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.

BIO 7040 Signaling Transduction Mechanisms Cr. 3
Overview of signaling strategies and mechanisms used by prokaryotes and eukaryotes (including plants) to sense and respond to extracellular or intracellular stimuli. Additional study of bioinformatic, biochemical, and genetics approaches to characterization of signaling proteins, systems and networks. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.

BIO 7045 Biometry Cr. 4
Provides practical tools for the design of experiments, data exploration and statistical analysis of data. Prepares students to begin to design scientific studies and experiments, critically evaluate data and test hypotheses via data analysis. While the course will delve into some underlying statistical theory, a major emphasis will be providing exposure to and hands-on experience with basic approaches to the analysis of univariate and multivariate data. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.

BIO 7055 Biology of the Eye Cr. 3
Integrated introduction to basic biological structure/function of the eye; causes and clinical treatments of eye-related disorders and diseases. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: ANA 7055

BIO 7060 Evolutionary and Developmental Biology Cr. 3
Introduction to animal diversity. Genetic pathways and networks in development; focus on limb and organ formation. Evolving developmental pathways: case studies. Genetic source materials for developmental evolution. Speciation and developmental evolution. Offered Every Other Year.
Prerequisite: BIO 5620 with a minimum grade of C-
Restriction(s): Enrollment is limited to Graduate level students.

BIO 7090 Molecular Genetics of Development Cr. 3
An examination of the current and classical research literature dealing with the role of gene action in development. Offered Intermittently.
Prerequisite: BIO 5620 with a minimum grade of C-
Restriction(s): Enrollment is limited to Graduate level students.

BIO 7110 Aquatic Ecology Cr. 4
Physical, chemical and biological processes occurring in lakes, streams, and wetlands. Offered Every Other Fall.
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $67

BIO 7150 Genomics Cr. 3
Introduction to the theory and practice of genomics. Topics include sequencing and mapping, overview of genomes, comparative genomics, transcriptomes, population genetics and genomics, basic bioinformatics and statistics, population-level variation (SNPs, MNPs, indels), ethics, evolutionary genomics, and functional genomics. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.

BIO 7180 Membrane Biology Cr. 3
Comprehensive analysis of cellular and model membranes integrating molecular structure and physiological properties. Structural, dynamic, and physiological properties examined, including molecular and macromolecular assemblies, physical and chemical analysis of molecular motion, functional aspects including trans-membrane signaling. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students.

BIO 7240 Molecular Systems Biology Cr. 3
Introduces the basic design principles of biological circuits and networks and their functional designs at the molecular, pathway, whole cell, and population levels. Students will perform a comprehensive group project to build a computational model of a simple biological network. Offered Every Other Year.
Prerequisites: BIO 3070 and PHY 2140
Restriction(s): Enrollment is limited to Graduate level students.

BIO 7280 Bioinformatics Cr. 3
Basic Linux commands and PERL programming skills, sequence comparison, phylogenetic analysis, gene/genome patterns. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students.

BIO 7310 Sustainability of Urban Environmental Systems Cr. 2
Students will be introduced to topics in urban sustainability from multiple disciplinary perspectives such as: ecology, anthropology, communication, engineering, economics and urban planning. Questions in fostering a more sustainable urbanism will be introduced and evaluated. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: CE 7311

BIO 7440 Terrestrial Ecology Cr. 4
Ecology of forests and grasslands. Field study and interpretation of ecological processes. Importance of species-site relationships and disturbance history. Offered Every Other Year.
Prerequisite: BIO 1500 with a minimum grade of C- and BIO 4130 with a minimum grade of C-
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $110

BIO 7490 Population and Community Ecology Cr. 3
Population dynamics of animals and plants. Life history theory. Species interactions. Structure and dynamics of communities. Offered Every Other Year.
Prerequisite: BIO 1500 with a minimum grade of C- and BIO 4130 with a minimum grade of C-
Restriction(s): Enrollment is limited to Graduate level students.

BIO 7500 Prokaryotic Gene Structure and Function Cr. 4
Detailed analysis of structure, expression and replication off genes of prokaryotic cells and associated extrachromosomal elements. Critical discussion of studies establishing central concepts in prokaryotic gene regulation, DNA structure and dynamics transcription, translation and signal transduction systems. Offered Every Other Year.
Prerequisite: BIO 3070 with a minimum grade of C- and BIO 3100 with a minimum grade of C-
Restriction(s): Enrollment is limited to Graduate level students.

BIO 7510 Eukaryotic Gene Structure and Function Cr. 4
Knowledge of current molecular technology is absolute prerequisite for this course; prerequisite course must have been satisfied. Analysis of structure, replication, expression and regulation of eukaryotic genome. Experimental approaches to study eukaryotic gene expression, critical comprehension of current research, design of experiments in gene expression. Offered Every Other Year.
Prerequisite: BIO 6330 with a minimum grade of C- or BIO 7780 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

BIO 7540 Landscape Ecology Cr. 3
Concepts, methods, and applications of landscape ecology. Causes and implications of ecological patterns and heterogeneity on landscapes. Interrelationships of patterns and ecological processes. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.

BIO 7660 Neural Signaling in Health and Disease Cr. 3
Addresses major principles of how various brain systems regulate physiological processes of the body function, both individually and as an integrated unit. Includes principles of physiological communication as it relates to homeostasis, metabolism, and both neural and endocrine communication; emphasis is given not only to major principles but also to how these principles were developed. Topics include (but are not limited to) dysfunction and disorders of the central nervous system (CNS) in the context of signaling pathways and hormonal systems, neurodegeneration, interaction between neurons and glia cells and neuroinflammation. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.

BIO 7750 Biology of Longevity Aging Cr. 3
Longevity, aging and senescence viewed as fundamental biological processes common to most organisms. Data-based discussion of investigative methods and accepted facts regarding the mechanisms underlying longevity and aging, coupled with critical discussion of behavioral and biological interventions known to retard or reverse the aging processes. Systems biology overview of the process, including societal parameters necessary to the maintenance of longevity. Offered for graduate credit only. Offered Winter.
Prerequisite: BIO 3070 with a minimum grade of C-
Restriction(s): Enrollment is limited to Graduate level students.

BIO 7780 Genetic Engineering Laboratory Cr. 2
Continuation of BIO 6120 laboratory experience; screening procedures and DNA sequencing methods. Offered Intermittently.
Prerequisite: BIO 6120 with a minimum grade of C and BIO 6330 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $30

BIO 7996 Research Problems Cr. 1-8
Original investigation. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 998.99 Credits

BIO 8000 Special Topics Cr. 1-6
Various frontier aspects of biology. Work may include lectures, laboratories or discussion. Topics to be announced in Schedule of Classes. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 6 Credits

BIO 8995 Graduate Seminar in Biology Cr. 2
Presentations by graduate staff, advanced students, visiting lecturers. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Biological Sciences; enrollment limited to students in a Doctor of Philosophy or Master of Science degrees.
Repeatable for 4 Credits

BIO 8996 Research in Molecular Biotechnology Cr. 1-4
Students spend two semesters doing research under the guidance of faculty associated with the Molecular Biotechnology Program and in other laboratories. Offered Winter, Spring/Summer.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 8 Credits

BIO 8999 Master's Thesis Research and Direction Cr. 1-8
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students with a class of Candidate Masters.
Repeatable for 8 Credits

BIO 9990 Pre-Doctoral Candidacy Research Cr. 1-8
Research in preparation for doctoral dissertation. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 12 Credits

BIO 9991 Doctoral Candidate Status I: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.

BIO 9992 Doctoral Candidate Status II: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: BIO 9991 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

BIO 9993 Doctoral Candidate Status III: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: BIO 9992 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

BIO 9994 Doctoral Candidate Status IV: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: BIO 9993 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

BIO 9995 Candidate Maintenance Status: Doctoral Dissertation Research and Direction Cr. 0
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $370.26
Repeatable for 0 Credits

BIO 9996 Lab Rotation Cr. 2
Research training in faculty laboratories on a rotating basis, up to two labs per semester. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 4 Credits

BLW - BUSINESS LAW

BLW 2510 Business Law I Cr. 3
Introduction to the domestic and international legal systems as they relate to business. Impact of the legal environment on management decision-making and the legal and ethical implications of contracts and sales, including product liability. No credit after ACC 2510. Offered Every Term.
Prerequisites: BA 2020 with a minimum grade of D-
Restriction(s): Enrollment is limited to Undergraduate level students.

BLW 5190 Business Law II Cr. 3
Legal, ethical and managerial implications of various forms of organizing and operating a business; corporations, partnerships, limited liability companies, sole proprietorships. Negotiable instruments and the banking system; agency and professional liability. Offered for undergraduate credit only. Offered Winter.
Prerequisites: BLW 2510 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

BLW 7220 Business Law II Cr. 3
Law governing business corporations; fiduciary duties of managers and directors in situations such as mergers, acquisitions, securities offerings, market domination, litigation. No credit after ACC 7220. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Business.

BMB - BIOCHEMISTRY AND MOLECULAR BIOLOGY

BMB 7010 General Biochemistry Lecture Cr. 4
Introduction to biochemistry: structure of biological molecules, enzymes, bioenergetics, intermediary metabolism. Biosynthesis of DNA, RNA, and proteins. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.

BMB 7020 Biochemistry Laboratory Rotation Cr. 3
Research projects with various faculty. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.

BMB 7030 Core Concepts in Technologies in Biochemistry and Molecular Biology Cr. 4
Methods-based approach to understanding core concepts in biochemistry and biotechnology. Students acquire competence enabling them to explain and implement these approaches. Offered Fall.
Corequisite: BMB 7010
Restriction(s): Enrollment is limited to Graduate level students.

BMB 7140 Foundations of Data Science Cr. 3
Introduction to basic concepts of linear algebra and their application to data analysis. MATLAB and PYTHON programs are introduced and employed as tools for practical implementation of computational methods. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: IBS 7140

BMB 7320 Protein Structure and Function Cr. 3
Structure, function, and design of proteins: architecture, function, regulation, assembly and evolution of proteins and protein complexes; theory and techniques of kinetic analysis; newer techniques of protein design and engineering. Offered Winter.
Prerequisite: BMB 7010 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

BMB 7330 Advanced Molecular Biology Cr. 2
Modern topics in biochemistry, including nucleic acid dynamics, genomic structure, DNA replication and repair, transcription, RNA processing, translation and protein synthesis. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: IBS 7330

BMB 7360 Advanced Structural Biology Cr. 2
Determination of structure and dynamics of biological molecules by NMR and crystallography; emphasis on protein structure and function. Offered Winter.
Prerequisites: IBS 7015 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

BMB 7670 Advanced Biochemistry Laboratory Cr. 2-10
Advanced laboratory techniques as applied to investigations of biological materials. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.

BMB 7890 Journal Club Cr. 1
Student presentations of papers from recent biochemistry literature; recommended for graduate students in biochemistry only. Offered Fall, Winter.
Prerequisite: BMB 7010 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Biochemistry&Molecular Biology.
Repeatable for 6 Credits

BMB 7996 Research Cr. 1-15
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 30 Credits

BMB 8999 Master's Thesis Research and Direction Cr. 1-8
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students with a class of Candidate Masters.
Repeatable for 8 Credits

BMB 9990 Pre-Doctoral Candidacy Research Cr. 1-8
Research in preparation for doctoral dissertation. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 12 Credits

BMB 9991 Doctoral Candidate Status I: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.

BMB 9992 Doctoral Candidate Status II: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: BMB 9991 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

BMB 9993 Doctoral Candidate Status III: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: BMB 9992 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

BMB 9994 Doctoral Candidate Status IV: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: BMB 9993 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

BMB 9995 Candidate Maintenance Status: Doctoral Dissertation Research and Direction Cr. 0
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $370.26
Repeatable for 0 Credits

BME - BIOMEDICAL ENGINEERING

BME 1910 Biomedical Engineering Design Lab I Cr. 1
Application of engineering principles to biomedical engineering problems through laboratory and design exercises. First of a six-semester sequence; work on a biomedical engineering team; basics of biomedical engineering design. Offered Fall.
Prerequisites: May be taken concurrently: BE 1500 with a minimum grade of C-
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment is limited to students with a major in Biomedical Engineering or Biomedical Engg Honors.
Course Material Fees: $25

BME 1920 Biomedical Engineering Design Lab II Cr. 1
Application of engineering principles to biomedical engineering problems through laboratory and design exercises. Second of a six-semester sequence; basic analysis of biomaterials and design importance of materials. Offered Winter.
Prerequisite: BE 1300 (may be taken concurrently) with a minimum grade of C-
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment is limited to students with a major in Biomedical Engineering or Biomedical Engg Honors.
Course Material Fees: $100

BME 1925 Biomedical Engineering Design Laboratory: Jump Start I Cr. 2
Laboratory and design exercises focusing on fundamental design processes for biomedical engineering and the application of materials science to BME. This course replaces the BME 1910 - BME 1920 sequence for students who transfer into the program in the second year. Offered Spring/Summer.
Restriction(s): Enrollment is limited to students with a major in Biomedical Engineering or Biomedical Engg Honors.
Course Material Fees: $43

BME 2010 Introduction to Physiology for Engineers Cr. 2
Introduction to human physiological and pathophysiological processes. Offered Winter.
Prerequisite: BIO 1510 with a minimum grade of C- and CHM 1240 with a minimum grade of C-
Restriction(s): Enrollment is limited to Undergraduate level students.

BME 2070 Introduction to Anatomy for Engineers Cr. 2
A text and models based anatomy course for undergraduate students in biomedical engineering. This course is intended to give the students an introductory experience of the study of human anatomy in relation to engineering principles. Offered Fall.
Prerequisites: BIO 1510 with a minimum grade of C-
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment is limited to students with a major in Biomedical Engineering or Biomedical Engg Honors.
Course Material Fees: $25

BME 2910 Biomedical Engineering Design Lab III Cr. 1
Application of engineering principles to biomedical engineering problems through laboratory and design exercises. Third of a six-semester sequence; analysis of musculoskeletal forces biomechanics. Offered Fall.
Prerequisite: (BME 1920 with a minimum grade of C- or BME 1925 with a minimum grade of C-) and ME 2410 (may be taken concurrently) with a minimum grade of C-
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment is limited to students with a major in Biomedical Engineering or Biomedical Engg Honors.
Course Material Fees: $25

BME 2920 Biomedical Engineering Design Lab IV Cr. 1
Application of engineering principles to biomedical engineering problems through laboratory and design exercises involving tissue biomechanics. Introduction to finite element modeling. Fourth of a six-semester sequence. Offered Winter.
Prerequisite: BE 2100 (may be taken concurrently) with a minimum grade of C- and BME 2010 (may be taken concurrently) with a minimum grade of C- and ME 2420 (may be taken concurrently) with a minimum grade of C-
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment is limited to students with a major in Biomedical Engineering or Biomedical Engg Honors.
Course Material Fees: $25

BME 3470 Biomedical Signals and Systems Cr. 3
Mathematical, engineering and computer techniques for describing and analyzing biomedical signals, including ECG, EEG, EMG, blood pressure, and tomographic images. Offered Fall.
Prerequisites: May be taken concurrently: BME 3910 with a minimum grade of C- and ECE 3300 with a minimum grade of C-
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the College of Engineering; enrollment is limited to students in the Department of Biomedical Engineering; enrollment is limited to students with a major in Biomedical Engineering or Biomedical Engg Honors; enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering.
Course Material Fees: $50

BME 3910 Biomedical Engineering Design Lab V Cr. 1
Application of engineering principles to biomedical engineering problems through laboratory and design exercises. Focus on measurement, analysis, modeling, and interaction with biomedical signals from living systems. Fifth of a six-semester sequence. Offered Fall.
Prerequisite: BE 1500 with a minimum grade of C- and MAT 2150 with a minimum grade of C- and ENG 3050 with a minimum grade of C- and BME 3470 (may be taken concurrently) with a minimum grade of C-
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment is limited to students with a major in Biomedical Engineering or Biomedical Engg Honors.
Course Material Fees: $25

BME 3920 Biomedical Engineering Design Lab VI Cr. 2
Application of engineering principles to biomedical engineering problems through laboratory and design exercises. Introduction to the capstone design process. Integration of the design process with the complete government regulation system for medical device design. Use of advanced CAE tools for analysis. Sixth of a six-semester sequence. Offered Winter.
Prerequisite: BME 3910 with a minimum grade of C-
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment is limited to students with a major in Biomedical Engineering or Biomedical Engg Honors.
Course Material Fees: $100

BME 4010 Engineering Physiology Laboratory Cr. 1
Measurement and analysis of physiological signals on living systems, with focus on neural, cardiovascular, respiratory and muscular systems. Includes a student-designed experiment on a physiological system. Offered Winter.
Prerequisites: BME 2010 with a minimum grade of C-
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment is limited to students with a major in Biomedical Engineering or Biomedical Engg Honors.
Course Material Fees: $30

BME 4210 Introduction to Biomechanics Cr. 3
Broad introduction to the application of mechanical engineering principles to biomedical engineering, including motion analysis, injury and forensic biomechanics, cardiovascular and pulmonary mechanics, and design of implants with mechanical functions. Offered Winter.
Prerequisite: CHE 3200 with a minimum grade of C- and ME 2420 with a minimum grade of C-
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the College of Engineering; enrollment is limited to students in the Department of Biomedical Engineering; enrollment is limited to students with a major in Biomedical Engineering or Biomedical Engg Honors; enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering.

BME 4310 Introduction to Biomaterials Cr. 3
Broad introduction to the field of biomaterials and its application to tissue engineering, implant design, controlled drug delivery, and designer materials for therapeutic use. Offered Winter.
Prerequisite: CHE 3200 with a minimum grade of C- and ME 2420 with a minimum grade of C-
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the College of Engineering; enrollment is limited to students in the Department of Biomedical Engineering; enrollment is limited to students with a major in Biomedical Engineering or Biomedical Engg Honors; enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering.

BME 4410 Introduction to Biomedical Instrumentation Cr. 3
Broad introduction to the use and design of instrumentation for biomedical applications, in both clinical and research use; includes filtering techniques, safety issues, and special concerns for implanted and external systems. Offered Winter.
Prerequisites: BME 3470 with a minimum grade of C- and ECE 3300 with a minimum grade of C-
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the College of Engineering; enrollment is limited to students in the Department of Biomedical Engineering; enrollment is limited to students with a major in Biomedical Engineering or Biomedical Engg Honors; enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering.
Course Material Fees: $25

BME 4910 Biomedical Engineering Capstone Design I Cr. 3
Satisfies General Education Requirement: Writing Intensive Competency First in a two-semester sequence during which student teams develop a design to address a biomedical engineering challenge; includes discussions with clinical faculty, analysis of current solutions, and finalization of conceptual design. Offered Fall.
Prerequisite: BME 3920 with a minimum grade of C-
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students with a class of Senior; enrollment is limited to students with a major in Biomedical Engineering or Biomedical Engg Honors.
Course Material Fees: $50

BME 4920 Biomedical Engineering Capstone Design II Cr. 3
Second of a two-semester sequence. Students develop and test a prototype of their biomedical engineering design; culminates in a public design expo to exhibit student designs. Offered Winter.
Prerequisite: BME 4910 with a minimum grade of C-
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students with a class of Senior; enrollment is limited to students with a major in Biomedical Engineering or Biomedical Engg Honors.
Course Material Fees: $50

BME 5010 Quantitative Physiology Cr. 4
Basic principles of human physiology presented from the engineering perspective. Bodily functions, their regulation and control discussed in quantitative terms and illustrated by mathematical models where feasible. Offered Fall, Winter.
Equivalent: CHE 5100, ECE 5100, ME 5100

BME 5020 Computer and Mathematical Applications in Biomedical Engineering Cr. 4
Application of numerical methods in biomedical engineering. Programming algorithms and development of data analysis interfaces using Matlab and Excel. Development and refinement of mathematical models, binary data storage and round-off error, algorithm truncation error, and application of Taylor series for function approximation, error estimation, and algorithm development. Numerical methods for solving: roots of equations, systems of linear equations, system optimization, regression and interpolation, integration, differentiation, and ordinary and partial differential equations. Attention is focused on application of techniques within biomedical engineering. Offered Fall, Winter.

BME 5040 Fundamentals of Engineering Analysis Cr. 2
Intended to train biomedical engineering students, who have no engineering background, with fundamental principles of engineering and basics of an engineering programming language. It includes Matlab programming language and basics of engineering statics, dynamics, strength of materials, and electrical circuits. Offered Fall.

BME 5070 Engineering Anatomy Cr. 4
A cadaver based anatomy course for undergraduate students and MS-level students in biomedical engineering. This hands-on course is intended to give the students directed experience of the study of human anatomy in relation to engineering principles. The histological study of tissues in relation to mechanical function of the organism is included in this study. Offered Fall.
Prerequisites: BME 2070 with a minimum grade of C-
Restriction(s): Enrollment is limited to Graduate or Undergraduate level students; enrollment limited to students in a BS in Biomedical Engg degree.
Course Material Fees: $225

BME 5130 Vehicle Safety Engineering Cr. 4
Role of vehicle in road safety, occupation and pedestrian injury mechanisms, measures of vehicle safety performance, driver behavior and vehicle interface. Use of new technology to improve vehicle safety. Offered Intermittently.

BME 5210 Musculoskeletal Biomechanics Cr. 4
Structure and properties of the major tissue components of the musculoskeletal system and evaluation of how tissues combine to provide support and motion to the body. Offered Fall.
Prerequisite: BME 5010 with a minimum grade of C or BMS 6550 with a minimum grade of C
Equivalent: ME 5160

BME 5220 Cellular and Tissue Biomechanics Cr. 3
Introduces biomechanics on the cellular to the tissue level. We will be studying mediators of cell mechanics such as the cytoskeleton, extracellular matrix and receptor-ligand interactions. Topics include cell adhesion, cell motility, and hemodynamics. Understanding of these topics will lend to discussion of translation of these forces up to the tissue level and subsequent tissue function. Offered Fall.
Prerequisites: MAT 2010 with a minimum grade of C- and MAT 2020 with a minimum grade of C-

BME 5310 Device and Drug Approval and the FDA Cr. 3
Government regulations and industrial procedures that lead to device/drug approval. Offered Spring/Summer.

BME 5350 Regenerative Biology and Medicine for Biomedical Engineers Cr. 4
Introduces students specializing in biomedical engineering and premedical students to the conceptual and methodological principles of modern regenerative biology and medicine. Includes a review of research methods and achievements in this field and the translational applications of regenerative biology to tissue engineering and the development of regenerative therapies. Offered Winter.
Prerequisites: BME 2070 with a minimum grade of C-

BME 5360 Histology and Embryology Cr. 4
Examines the normal structure and development of human tissues and organisms and the applications of this knowledge to biomedical engineering. Working with microscopes, students will study the molecular and cellular characteristics of different tissues and the lab procedures used for the analysis of tissue specimens. Particular attention is focused on technical principles of tissue engineering of human organs in experimental and clinical settings. Offered Every Other Fall.
Prerequisites: BME 2070 with a minimum grade of C-

BME 5370 Introduction to Biomaterials Cr. 4
Introduction to study of both biological materials (bone, muscle, etc.) and materials for medical applications. Topics include tissue properties and effects of pathology, biocompatibility, and design considerations. Offered Winter.
Prerequisites: BIO 1510 with a minimum grade of C- or May be taken concurrently: BMS 5010 with a minimum grade of B-
Equivalent: ME 5180

BME 5380 Biocompatibility Cr. 4
Wound healing and the tissue response to foreign materials. The organization, activation, and mechanisms of the immune system. Bioactive materials and the molecular basis for surface recognition and masking. Offered Intermittently.
Prerequisite: BME 5010 with a minimum grade of C or BMS 6550 with a minimum grade of C
Equivalent: MSE 5385

BME 5425 Robotic Systems I Cr. 4
Introduction to robot kinematics and control. Computational algorithms for robot movement, sensor fusion, and intelligent behavior, which are needed to build a system that performs actions and interacts with its environment. Offered Fall.
Prerequisites: BE 2550 with a minimum grade of C- or BE 1500 with a minimum grade of C- or BME 5020 with a minimum grade of C- or ECE 3040 with a minimum grade of C-
Equivalent: ECE 5425

BME 5450 Microscopic Analysis: Methods & Instrumentation Cr. 4
Provides the students specializing in biomedical engineering with a basis for understanding the modern methods of microscopic analysis and the design of different types of instrumentation used for microscopic analysis and imaging. Offered Winter.
Prerequisites: BME 2070 with a minimum grade of C-

BME 5460 Lasers for Medical Applications Cr. 3
Summarizes the wealth of recent research on the principles, technologies and application of lasers in diagnostics, therapy and surgery. Includes an overview of optics, optical components used in a typical laser, key principles of lasers and radiation interactions with tissue. The respective types of the laser (solid state, gas, dye, and semiconductor) are reviewed to provide an understanding of the wide diversity, and therefore, the large possible choice of these devices for a specific diagnosis, treatment, or surgery. Offered Winter.
Equivalent: ME 5465, PHY 5460

BME 5990 Directed Study Cr. 1-4
Independent projects on subjects in the field of biomedical engineering. Offered Every Term.
Repeatable for 4 Credits

BME 5995 Special Topics in Biomedical Engineering I Cr. 1-4
Topics as announced in Schedule of Classes. Offered Intermittently.

BME 6130 Accident Reconstruction Cr. 3
Passenger car and light truck behavior in collisions; recognition of roadway markings and vehicle damage used to analyze vehicle accidents and to use that evidence to reconstruct driver, vehicle and occupant dynamics at the time of the collision. Offered Spring/Summer.

BME 6470 Smart Sensor Technology I: Design Cr. 4
Introduction to various types of sensors and the design of basic analog VLSI circuit building blocks. Offered Winter.
Equivalent: ECE 6570, PHY 6570

BME 6480 Biomedical Instrumentation Cr. 4
Engineering principles of physiological measurements, signal conditioning equipment, amplifiers, recorders and transducers. Recent advances in instrumentation. Offered Winter.
Prerequisites: BME 5020 with a minimum grade of B- and ECE 3300 with a minimum grade of C- or BME 5040 with a minimum grade of B-
Equivalent: ECE 6180, ME 6180

BME 6991 Internship in Industry Cr. 1-4
Industrial internship in biomedical engineering. Offered Every Term.
Repeatable for 99 Credits

BME 7010 Functional Anatomy Cr. 4
Gross dissection-based course designed to introduce students to the anatomical structures associated with major physiological functions important to biomedical engineering. Offered Spring/Summer.
Prerequisite: BME 5010 with a minimum grade of B-
Restriction(s): Enrollment is limited to students with a major in Biomedical Engineering; enrollment limited to students in a Doctor of Philosophy degree.
Course Material Fees: $100

BME 7020 Cardiovascular Systems Modeling Cr. 4
Application of engineering principals and mathematical and computational techniques to cardiovascular systems. Partial differential equations, signal transduction pathway and biotransport modeling, and introduction to systems biology approaches. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students.

BME 7030 Mechanisms and Models of Cellular Regulation for Engineering Cr. 3
Basic concepts of intracellular signaling pathways in response to environmental stimuli such as biomaterials and mechanical forces. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students.

BME 7100 Mathematical Modeling in Impact Biomechanics Cr. 4
Review of models created for impact simulations. Regional impact simulation models. Human and dummy models subject to various restraint systems. Offered Winter.
Prerequisite: BME 5010 with a minimum grade of B-
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: ECE 7100, IE 7100, ME 7100

BME 7120 Applied Finite Element Methods in Biomechanical Analysis Cr. 4
Structural, stress, and strain analysis of the human body and/or artificial implants, using realistic biomechanical data for relevant tissues and material. Theoretical background and applied analysis. Offered Intermittently.
Prerequisite: ME 5040 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

BME 7150 Biomechanics of Blast-Related Injuries Cr. 3
This course covers new and old information developed by military researchers on injuries sustained by military personnel due to explosions or blasts caused by a variety of weapon systems. Injuries to body regions from head to foot are discussed. Particular emphasis is placed on injuries to the spine and lower extremities for the mounted soldier and on brain injury for both the mounted and dismounted soldier. The course includes the modeling of blast and blast-related effects on selected body regions. Offered Fall.
Prerequisite: BME 7100 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

BME 7160 Impact Biomechanics Cr. 4
Biomechanical response of the body regions and the whole body to impact. Mechanisms of injury in blunt impact. Effects of restraints on injury reduction. Development of test surrogates such as dummies. Offered Fall.
Prerequisite: BME 5010 with a minimum grade of B-
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $10
Equivalent: ME 7160

BME 7170 Experimental Methods in Impact Biomechanics Cr. 4
Lecture and laboratory combined; principles of impact testing; hands-on experience in use of impact-test equipment, including sled, pendulum, other types of impactors, and drop-test techniques. Offered Every Other Winter.
Prerequisite: BME 6480 with a minimum grade of C and BME 7160 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $100

BME 7300 Advanced Topics in Biomaterials and Tissue Biomechanics Cr. 4
Seminar format: advanced topics presented to the class; lectures by the instructor and by the participants based on literature reviews. Topics determined by student interest. Offered Every Other Fall.
Prerequisite: BME 5210 with a minimum grade of C or BME 5370 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: ME 7180, MSE 7180

BME 7370 Biomaterial Interfaces Cr. 4
Effects of topography and texture on the performance of biomaterials. Self-organization of biomembranes and supramolecular systems. Offered Winter.
Prerequisite: BME 5370 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

BME 7390 Tissue Engineering and Hybrid Systems Cr. 4
Seminar and project based approach to the design, development, analysis and application of organ and tissue replacement systems which incorporate processed materials and living cells. Offered Fall.
Prerequisites: BME 5370 with a minimum grade of C and CHE 7100 with a minimum grade of C or BME 5020 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: CHE 7390

BME 7425 Robotics Systems II Cr. 4
Project-based class to understand technology that interfaces computer engineering, software design, electronics and sensors with robotics. Advanced application areas of robotics will be covered including medical, military, space, vehicle robotics. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.
Equivalent: ECE 7425

BME 7470 Smart Sensor Technology II: Characterization and Fabrication Cr. 4
Integration of ongoing research in integrated technology of smart sensors. Design of smart sensor devices using computer simulation. Fabrication of smart sensor. Offered Spring/Summer.
Prerequisite: BME 6470 with a minimum grade of B- or ECE 6570 with a minimum grade of B- or PHY 6570 with a minimum grade of B-
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $50
Equivalent: ECE 7570, PHY 7580

BME 7490 Biomedical Microsystems Cr. 4
Biomedical microsystems, with a focus on microfluidics and lab-on-a-chip technologies for medical diagnostics and biological research. Broad coverage of microscale physics; microfabrication methods; separation, purification, and other on-chip processes; biosensing. Offered Fall.
Prerequisite: ECE 5575 with a minimum grade of C or ECE 6570 with a minimum grade of C or BME 6470 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: CHE 7490, ECE 7590

BME 7670 Experimental Methods in Physiology Cr. 3
Basic principles and techniques for monitoring and reading EMGs, EEGs, ECGs, respiratory cycle, pulmonary function, galvanic skin response and polygraph, human acceleration response. Designing and carrying out a project involving human body acceleration measures and EMG responses; a second project will be designed and carried out using measurement techniques chosen by the students. Offered Winter.
Prerequisite: BME 5010 with a minimum grade of B-
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $40

BME 7710 Magnetic Resonance Imaging Cr. 4
Science and engineering of magnetic resonance imaging; relaxation times, signal concepts, Fourier imaging, sampling, filtering, and sequence design. Offered Every Other Fall.
Prerequisite: BME 5020 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

BME 7720 MR Imaging of Neurovascular Disease Cr. 3
Recent advances in MRI technology applied to human brain vascular diseases. Methods include: 3D anatomical imaging, diffusion tensor imaging, functional brain imaging, perfusion imaging, and susceptibility weighted imaging. Offered Every Other Fall.
Prerequisite: BME 5010 with a minimum grade of B-
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.
Equivalent: PYC 7320

BME 7730 Medical Imaging Systems Cr. 3
Exposes students to the world of medical and biomedical imaging with emphasis on principles, approaches and applications of each modern imaging modality. Basic knowledge of MATLAB programming language is required. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: ECE 7740

BME 7990 Directed Study Cr. 1-4
Independent projects on subjects of interest in the field of biomedical engineering. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 12 Credits

BME 7995 Special Topics in Biomedical Engineering II Cr. 1-4
Topics as announced in Schedule of Classes. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students.

BME 7996 Research Cr. 1-4
Combined experimental and analytical study of a problem in the field of biomedical engineering. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 998.99 Credits

BME 8070 Seminar in Biomedical Engineering Cr. 1
Lectures on biomedical engineering and related fields by guest speakers, faculty, and students. M. S. and Ph.D. students are required to take one semester. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Graduate level students.

BME 8080 Doctoral Seminar in Biomedical Engineering Cr. 1
Seminar and research discussion based on research projects of BME doctoral students. Offered Every Term.
Restriction(s): Enrollment is limited to students with a major in Biomedical Engineering; enrollment limited to students in a Doctor of Philosophy degree.

BME 8999 Master's Thesis Research and Direction Cr. 1-8
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Biomedical Engineering.
Repeatable for 8 Credits

BME 9990 Pre-Doctoral Candidacy Research Cr. 1-8
Research in preparation for doctoral dissertation. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Biomedical Engineering.
Repeatable for 12 Credits

BME 9991 Doctoral Candidate Status I: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Biomedical Engineering.

BME 9992 Doctoral Candidate Status II: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: BME 9991 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Biomedical Engineering.

BME 9993 Doctoral Candidate Status III: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: BME 9992 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Biomedical Engineering.

BME 9994 Doctoral Candidate Status IV: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: BME 9993 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Biomedical Engineering.

BME 9995 Candidate Maintenance Status: Doctoral Dissertation Research and Direction Cr. 0
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Biomedical Engineering.
Course Material Fees: $370.26
Repeatable for 0 Credits

BMS - BASIC MEDICAL SCIENCE

BMS 6010 Responsible Conduct in Biomedical Research Cr. 1
Nature, motivation and ethics in biomedical science situations liable to fraud, misconduct, conflicts of interest, and plagiarism in research, in peer and editorial review, and in authorship. Methods of safe laboratory practice and ethical human and animal use as research subjects in science. Offered for graduate credit only. Offered Spring/Summer.
Restriction(s): Enrollment is limited to Graduate level students.

BMS 6550 Medical Anatomy for Health Professionals Cr. 4
Basics of human anatomy for BMS and selected graduate students. Offered Spring/Summer.
Course Material Fees: $15

BMS 7100 Introduction to the Business of Biotechnology Cr. 3
Translation of biomedical innovation from bench to bedside, with focus on interplay between healthcare needs, regulatory agencies, and commercialization pathways. Offered Winter.
Equivalent: IBS 7110

BMS 7115 Special Topics in Biotechnology Commercialization Cr. 1
Designed to provide practical experience in defining the relationships between academic discovery science and business development, with a focus on best practices for presenting basic research-commercial products to external, interested individuals. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: IBS 7115

BMS 7880 Special Topics/Projects Cr. 1-4
Up to four credits in research, laboratory, discussion, or field work, in any combination; for students in Basic Medical Sciences or Medical Research program. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.

BMS 7999 Essays in Basic Medical Science Cr. 3
Methodologies in library research and critical evaluation of current biomedical literature. Written summary and report on a specific topic in current biomedical literature. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students with a class of Candidate Masters.

CB - CANCER BIOLOGY

CB 7130 Clinical Aspects of Cancer Biology Cr. 1
Cancer Biology Ph.D. students accompany clinicians during rounds in hospital and outpatient clinics, as well as attend clinical conferences and related sessions. Offered for S and U grades only. Offered Spring/Summer.
Restriction(s): Enrollment is limited to students with a major in Cancer Biology.

CB 7210 Fundamentals of Cancer Biology Cr. 3
The lectures are organized into three thematic blocks including cancer development and pathology, mechanisms of cancer development and progression, and principles of cancer prevention and therapy. Offered Winter.
Prerequisite: IBS 7015 with a minimum grade of C
Restriction(s): Enrollment is limited to students with a major in Cancer Biology.

CB 7220 Molecular Biology of Cancer Development Cr. 3
Topics covered include: genetics and molecular basis of normal cell transformation into malignant cancer cells; and molecular mechanisms that are fundamental to the regulation of cell growth, development, and differentiation. The students are expected to present and participate in discussions of one or more key recent papers that are relevant to the lectures. Students with a strong background in biology/molecular biology are encouraged to apply. Offered Every Other Year.
Prerequisite: IBS 7015 with a minimum grade of C and CB 7210 with a minimum grade of C
Restriction(s): Enrollment is limited to students with a major in Cancer Biology.
Equivalent: PHC 7220

CB 7240 Principles of Cancer Therapy Cr. 2
Continuation of the principles of cancer therapy taught in CB 7210. Concepts relating to tumor biology and the biochemistry and pharmacology of both classic and targeted agents are covered. Offered Every Other Winter.
Prerequisite: IBS 7015 with a minimum grade of C and CB 7210 with a minimum grade of C
Restriction(s): Enrollment is limited to students with a major in Cancer Biology.
Equivalent: PHC 7240

CB 7300 Special Topics in Cancer Biology Cr. 1-3
Designed to provide students exposure to emerging themes and technologies in the cancer field, as well as to cancer related topics that are not covered in detail in other courses. Offered Every Term.
Prerequisite: CB 7210 with a minimum grade of C
Restriction(s): Enrollment is limited to students with a major in Cancer Biology.
Repeatable for 3 Credits

CB 7410 Cancer Immunology and Immunotherapy Cr. 3
Cancer immunotherapy based on the molecular mechanisms of T-cell development, tolerance and activation. Topics include T-cell receptor and co-stimulatory signal-mediated regulation of T-cell activation, transcriptional regulation of T-cell differentiation, and T-cell effector function and regulatory mechanisms. Each week will consist of a one-hour lecture and a two-hour discussion. Offered Every Other Winter.
Prerequisite: IBS 7015 with a minimum grade of C
Restriction(s): Enrollment is limited to students with a major in Cancer Biology.
Equivalent: IM 7410

CB 7430 Cancer Epidemiology Cr. 2
Introduction to the principal concepts and methods used in cancer epidemiology. Important evaluations of cancer burden in the United States and worldwide, as well as the major causes of human cancer. Students will be required to review and provide critical appraisal of selected literature in innovative areas of cancer epidemiologic research. Offered Every Other Year.
Restriction(s): Enrollment is limited to students with a major in Cancer Biology; enrollment limited to students in a Master in Public Health degree.

CB 7460 Mechanisms of Neoplasia: Alterations to Cellular Signaling Cr. 3
Course covers cellular regulatory signal-transduction networks that are often activated inappropriately in malignant cells. Focus on the major principles of cancer cell biology including survival, apoptosis, adhesion, and cell cycle deregulation. Offered Every Other Fall.
Prerequisite: CB 7210 with a minimum grade of C and IBS 7015 with a minimum grade of C
Restriction(s): Enrollment is limited to students with a major in Cancer Biology.

CB 7600 Applied Cancer Biostatistics Cr. 2
Concepts and applications of statistical methods and data analysis as related to cancer research. Students will have hands-on experience in statistical thinking, analyzing, and interpreting through the interactive teaching modules. The course provides an opportunity for students to understand statistical analyses in the medical literature, as well as provide guidance for planning and analyzing their own research. Offered Every Other Fall.
Restriction(s): Enrollment is limited to students with a major in Cancer Biology.

CB 7700 Recent Developments in Cancer Biology Cr. 1
This course is Journal club format designed to develop proficiency in critically evaluating original scientific literature, to broaden knowledge of current cancer research, and to provide insight into different research strategies. Each student is expected to participate in class discussions. Offered Fall, Winter.
Restriction(s): Enrollment is limited to students with a major in Cancer Biology.
Repeatable for 6 Credits

CB 7710 Individual Studies in Cancer Biology Cr. 1-3
Cancer Biology graduate students pursue experimental research under the guidance of selected faculty. This is the research rotation through which students select their Ph.D. dissertation mentor. Offered Every Term.
Restriction(s): Enrollment is limited to students with a major in Cancer Biology.
Repeatable for 3 Credits

CB 7800 Rigor and Reproducibility in Cancer Biology Cr. 1
Provide students with the ability to understand and learn how to conduct rigorous and reproducible cancer research. This includes experimental design, data interpretation, publishing, animal and human research, and other topics relevant for the conduct of responsible research in Cancer Biology. Offered Winter.
Restriction(s): Enrollment is limited to students with a major in Cancer Biology.

CB 7890 Seminar in Cancer Biology Cr. 1
This course provides second year and above students with the opportunity to present their dissertation work to their peers. This class not only provides students with the opportunity to develop their oral presenting skills, but also gives the students a chance to critically evaluate their peers. Offered Fall, Winter.
Restriction(s): Enrollment is limited to students with a major in Cancer Biology.
Repeatable for 6 Credits

CB 7996 Research Cr. 1-15
Directed study and pre-dissertation research with faculty in the program. Offered Every Term.
Restriction(s): Enrollment is limited to students with a major in Cancer Biology.
Repeatable for 15 Credits

CB 7999 Master's Essay Cr. 1-4
Research in the research literature, and writing of an essay on a topic area in contemporary cancer biology. Offered Every Term.
Restriction(s): Enrollment is limited to students with a major in Cancer Biology.
Repeatable for 4 Credits

CB 8999 Master's Thesis Research and Direction Cr. 1-8
Offered Every Term.
Restriction(s): Enrollment is limited to students with a major in Cancer Biology.
Repeatable for 8 Credits

CB 9991 Doctoral Candidate Status I: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Restriction(s): Enrollment is limited to students with a major in Cancer Biology.

CB 9992 Doctoral Candidate Status II: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: CB 9991 with a minimum grade of S
Restriction(s): Enrollment is limited to students with a major in Cancer Biology.

CB 9993 Doctoral Candidate Status III: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: CB 9992 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Cancer Biology.

CB 9994 Doctoral Candidate Status IV: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: CB 9993 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Cancer Biology.

CB 9995 Candidate Maintenance Status: Doctoral Dissertation Research and Direction Cr. 0
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Cancer Biology.
Course Material Fees: $370.26
Repeatable for 0 Credits

CE - CIVIL ENGINEERING

CE 2410 Statics Cr. 3
Basic concepts and principles of statics with applications to Newton's Laws of Motion to engineering problems. Forces, moments, equilibrium, couples, free body diagrams, trusses, frames, fluid statics, friction, area and mass moment of inertia. Offered Every Term.
Prerequisites: MAT 2020 with a minimum grade of C- and PHY 2175 with a minimum grade of C- and BE 1500 with a minimum grade of C-
Equivalent: ME 2410

CE 2420 Elementary Mechanics of Materials Cr. 3
Elastic relationships between external forces acting on deformable bodies and the associated stresses and deformations; structural members subjected to axial load, torsion, and bending; column buckling; combined stresses; repeated loads; unsymmetrical bending. Offered Every Term.
Prerequisites: ME 2410 with a minimum grade of C- or CE 2410 with a minimum grade of C-
Equivalent: ME 2420

CE 3010 Introduction to CAD in Civil Engineering Cr. 3
Principles of computer graphics and utilization of computers in the design process. Civil engineering applications of AutoCAD. Offered Every Other Year.
Prerequisite: MAT 2020 with a minimum grade of C- and BE 1200 with a minimum grade of C-
Restriction(s): Enrollment limited to students in the College of Engineering; enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering.

CE 3070 Surveying Cr. 3
Principles of plane surveying; measurement of horizontal and vertical distance, directions and angles, traverses, areas. Offered Intermittently.
Prerequisite: PHY 2185 with a minimum grade of C- or PHY 2180 with a minimum grade of C-
Restriction(s): Enrollment limited to students in the College of Engineering; enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering.
Course Material Fees: $20

CE 3250 Applied Fluid Mechanics Cr. 4
Application of theoretical fluid mechanics to problems of special interest to civil engineers including pipe flow, open channel flow, forces on submerged bodies, and flow measurement. Laboratory component of course provides experimental verification of theories and computer visualization. Offered Fall.
Prerequisite: MAT 2030 with a minimum grade of C-
Restriction(s): Enrollment limited to students in the College of Engineering; enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering.
Course Material Fees: $15

CE 3450 Civil Engineering Materials Cr. 4
Structure, composition and engineering properties of aggregates, cement concrete, asphalt, asphalt concrete, and other civil engineering materials. Mix design, testing, and quality control. Material Fee as indicated in the Schedule of Classes. Offered Winter.
Prerequisite: BE 2100 with a minimum grade of C- and CE 2420 (may be taken concurrently) with a minimum grade of C-
Restriction(s): Enrollment limited to students in the College of Engineering; enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering.
Course Material Fees: $35

CE 4210 Introduction to Environmental Engineering Cr. 3
Introduction to environmental laws; reaction kinetics; principles of mass balances; plug-flow and completely stirred tank reactors; Stoke's Law; Streeter-Phelps oxygen sag curves; water chemistry; hydrologic cycle; population growth models; elements of soil waste management and air pollution. Offered Winter.
Prerequisite: CE 3250 with a minimum grade of C-
Restriction(s): Enrollment limited to students in the College of Engineering; enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering.
Course Material Fees: $10

CE 4240 Environmental Engineering Design Cr. 3
Design of engineered environmental systems, including drinking water distribution systems, sanitary and storm water sewer systems, and municipal waste disposal sites. Offered Fall.
Prerequisite: CE 4210 with a minimum grade of C-
Restriction(s): Enrollment limited to students in the College of Engineering; enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering.

CE 4400 Structural Analysis Cr. 4
Basic concepts of structural analysis; reactions, forces, and stresses in trusses and beams; influence lines; elastic deflections; introduction to indeterminate structures; computer applications. Offered Fall.
Prerequisites: CE 2410 with a minimum grade of C- and CE 2420 with a minimum grade of C-
Restriction(s): Enrollment limited to students in the College of Engineering; enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering.

CE 4410 Steel Design Cr. 3
First course in design of steel structures. Introduction to the concepts, requirements, and fundamental skills for steel building structural design. Offered Winter.
Prerequisites: CE 4400 with a minimum grade of C-
Restriction(s): Enrollment limited to students in the College of Engineering; enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering.

CE 4420 Reinforced Concrete Design Cr. 3
First course in design of concrete structures. Design and analysis of reinforced concrete beams, columns, and other structural members; ACI code requirements, cost concerns, safety, industry practices; introduction to prestressed concrete. Offered Fall.
Prerequisite: CE 4400 with a minimum grade of C-
Restriction(s): Enrollment limited to students in the College of Engineering; enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering.

CE 4510 Introduction to Geotechnical Engineering Cr. 4
Composition, engineering properties and behavior of soils. Principles of soil mechanics. Experimental determination of engineering classification, strength and deformation characteristics of natural and artificially placed soils. Offered Fall.
Prerequisite: CE 3450 with a minimum grade of C- and CE 3250 (may be taken concurrently) with a minimum grade of C-
Restriction(s): Enrollment limited to students in the College of Engineering; enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering.
Course Material Fees: $30

CE 4600 Transportation Engineering Cr. 3
Transportation functions; transportation systems including highways, railways and airways. Techniques of transportation systems analysis including optimization, network flows and queueing theory. Offered Winter.
Prerequisite: BE 3220 with a minimum grade of C- or BE 2100 with a minimum grade of C-
Restriction(s): Enrollment limited to students in the College of Engineering; enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering.
Course Material Fees: $10

CE 4640 Transportation Design Cr. 3
A description of design elements of various system components of transportation; including the driver, vehicle and roadway. Traffic flow design elements including volume, density and speed; intersection design elements including delay, capacity and accident countermeasures and terminal design elements including inflow, outflow and circulation. Offered Fall.
Prerequisite: CE 4600 with a minimum grade of C-
Restriction(s): Enrollment limited to students in the College of Engineering; enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering.

CE 4850 Engineering Economy Cr. 3
Economic analysis of engineering projects. Selection of appropriate interest rates and methods of analysis, analysis and evaluation of alternatives, depreciation and tax considerations, and use of accounting data in comparison of investment alternatives. Offered Fall.
Restriction(s): Enrollment limited to students in the College of Engineering; enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering.
Course Material Fees: $10
Equivalent: IE 4850

CE 4990 Directed Study Cr. 1-4
Supervised study and instruction in civil engineering. Written report required. Offered Every Term.
Restriction(s): Enrollment limited to students in the College of Engineering; enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering.
Repeatable for 6 Credits

CE 4995 Senior Design Project Cr. 3
Satisfies General Education Requirement: Writing Intensive Competency Capstone design experience through civil engineering projects. Satisfies General Education Writing Intensive requirement. Offered Winter.
Restriction(s): Enrollment limited to students in the College of Engineering; enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering.

CE 5220 Environmental Chemistry Cr. 3
Fundamentals of aqueous chemistry for environmental engineers and scientists. Basic chemistry, equilibria, kinetics and thermodynamics; includes acid/base reactions, precipitation/dissolution, oxidation/reduction reactions and partitioning. Offered Every Other Year.
Course Material Fees: $5

CE 5230 Water Supply and Wastewater Engineering Cr. 3
Analysis and design of water supply and wastewater treatment systems; water distribution systems; treatment of municipal water supplies, including sedimentation, softening, filtration and disinfection; design of sanitary and storm sewers; primary, secondary and tertiary treatment plant design; sludge handling. Offered Yearly.
Prerequisite: CE 4210 with a minimum grade of C-
Course Material Fees: $5

CE 5350 Introduction to Structural Dynamics Cr. 4
Dynamic properties of structures,. Modeling of dynamic loads. Structural response to dynamic loading. Structural design requirements for dynamic loads. Fundamental techniques of dynamic system analysis. Offered Winter.
Prerequisite: ME 3400 with a minimum grade of C- and CE 4400 with a minimum grade of C-

CE 5370 Finite Element Analysis Fundamentals Cr. 3
Matrix structural analysis, discretization of continuous structural systems, stress analysis. Commercial finite element software preprocessing for developing finite element models; post-processing for evaluating analysis results. Offered Fall.
Prerequisites: CE 4400 with a minimum grade of C-

CE 5410 Energy, Emissions, Environment (E3) Design Cr. 3
Provides students the tools to uncover the relation between energy consumption and energy generation and optimize processes to take most advantage of low emitting energy options. Exposes students to design tools and methodologies from a diverse group of sources including US EPA, DOE, EIA, and the latest in emerging research. Offered Fall.
Equivalent: AET 5410, STE 5410

CE 5510 Geotechnical Engineering I Cr. 4
Site investigation, site improvement, bearing capacity and settlement of shallow foundations, axial capacity and lateral deflection of deep foundations, design of conventional earth retaining walls, and basics of slope stability analyses. Offered Fall.
Prerequisites: CE 4510 with a minimum grade of C-

CE 5520 Geotechnical Engineering II Cr. 3
Lateral earth pressure theories, design of conventional earth-retaining walls and of reinforced earth walls, anchored sheet-pile walls and cofferdams, fundamentals of soft-ground tunneling, two- and three-dimensional slope stability analyses, and static design of earth dams. Offered Every Other Year.
Prerequisites: CE 4510 with a minimum grade of C-

CE 5610 Highway Design Cr. 3
Application of standards, theory and practice in design of streets and highways. Design of streets and highways including cross section elements, shoulder and roadside features. Pavement design and rehabilitation work. Offered Yearly.
Prerequisites: CE 4640 with a minimum grade of C-

CE 5810 Legal Aspects of Engineering and Construction Cr. 3
Business of contracting, construction, liabilities of owner, architect, engineer and contractor. Rights in land, boundaries and foundations. Case studies. Offered Fall.
Course Material Fees: $5

CE 5830 Business of Engineering Cr. 3
Defining the engineering company, creating the organization, support services, business development, project management, scheduling, budgeting and profitability, operations, financial management and risk management. Offered Every Term.
Prerequisites: CE 4850 with a minimum grade of C-

CE 5995 Special Topics in Civil Engineering I Cr. 1-3
Topics to be announced in Schedule of Classes. Offered Intermittently.
Repeatable for 12 Credits

CE 6010 Introduction to Construction Engineering and Management Cr. 3
An introduction to the organization and management of construction projects. Project lifecycle including engineering, procurement and construction phases. Fundamentals of cost estimating, scheduling, quality, safety and risk management, legal and ethical aspects, construction productivity and lean construction, building codes, and building information modeling. Offered Winter.
Prerequisites: CE 4850 with a minimum grade of C-
Course Material Fees: $5

CE 6050 Construction Cost Estimating Cr. 3
Estimating construction costs of engineering projects including materials, man-hours, equipment and overhead. Emphasis on construction equipment, including productivity and planning. Bidding and bid documents. Offered Every Other Year.
Prerequisites: CE 4850 with a minimum grade of C-

CE 6060 Construction Techniques and Methods Cr. 3
Construction techniques and methods for excavation, foundations, concrete, wood, steel, masonry, heavy construction, wastewater treatment plants, highways and roads, high rise structures, bridges, and tunneling projects. Offered Every Other Year.
Prerequisites: CE 4450 with a minimum grade of C-

CE 6130 Open Channel Hydraulics Cr. 3
Theoretical development of equations governing flow in open channels. Application to real-world engineering problems involving water surface profiles, flood studies, and river. Offered Winter.
Prerequisites: CE 3250 with a minimum grade of C-

CE 6150 Hydrologic Analysis and Design Cr. 3
Principles of surface water hydrology and their application for evaluation of floods and the design of surface runoff control system; watershed characteristics; design storms and SCS methods; unit hydrographs; hydrologic models; application of computer methods. Offered Every Other Year.
Prerequisite: CE 6130

CE 6190 Groundwater Cr. 3
Historical background, aquifers and aquitards, saturated and unsaturated flow, sources of ground water contamination, artificial recharge of ground water, development of ground water basins and efficient use of ground water resources. Offered Yearly.
Prerequisites: CE 3250 with a minimum grade of C-

CE 6270 Sustainability Assessment and Management Cr. 3
Sustainability assessment and management for engineering design and development; theoretical, regulatory, and practical implications; Detroit and global applications. Offered Yearly.
Prerequisites: CE 4210 with a minimum grade of C-
Equivalent: STE 6270

CE 6330 Advanced Structural Analysis Cr. 3
Effect of axial loads on stiffness of flexural members. Buckling of trusses and rigid frames. Matrix method of analysis. Complex structures. Computer applications. Offered Fall.
Prerequisites: CE 4410 with a minimum grade of C-

CE 6340 Bridge Design and Evaluation Cr. 3
Concepts, procedures, methods of design and condition evaluation for modern highway bridges, according to current specifications. Entire system is covered, including superstructure, substructure, and their connections. Offered Every Other Year.
Prerequisites: CE 4420 with a minimum grade of C-

CE 6370 Advanced Reinforced Concrete Design Cr. 4
Theory and design of two-way slabs, footings, retaining walls, shear walls, and composite beams using ultimate strength design. Precast and prestressed concrete fundamentals. Offered Winter.
Prerequisites: CE 4420 with a minimum grade of C-

CE 6410 Advanced Steel Design Cr. 3
Advanced topics of structural steel design: thin walled rolled and built-up members, beam columns, lateral torsional buckling, steel fatigue design, connection details. Steel design project. Offered Every Other Year.
Prerequisites: CE 4420 with a minimum grade of C-

CE 6580 Geoenvironmental Engineering I Cr. 4
Properties and test methods for natural and synthetic materials used in landfills; analysis of chemical interactions, flow mechanisms, stability and settlement for the design of landfill components. Offered Yearly.
Prerequisites: CE 4510 with a minimum grade of C-

CE 6660 Pavement Asset Management Cr. 3
Principles and practices of pavement management at the network and project level: serviceability, pavement design models, economic analysis, and priority programming. Offered Yearly.
Prerequisites: CE 4640 with a minimum grade of C-

CE 6880 Building Information Modeling (BIM) Cr. 3
Lectures, hands-on demonstrations and lab exercises to familiarize students with concepts and tools in Revit Architecture 2010 software; how software integrates 3D and 2D modeling.Includes an overview of the Building Information Modeling (BIM) process; integration of designs from different disciplines (architectural, structural and MEP) in a BIM model; and use of BIM tools (including Revit and Navisworks) to create 2D, 3D, 4D (schedule) and 5D (cost) models for project control purposes, as well as clash detections. Offered Every Other Year.
Prerequisites: CE 3010 with a minimum grade of C-

CE 6910 Pharmaceutical Waste: Environmental Impact and Management Cr. 2-3
Course designed for advanced professional and graduate students with sufficient chemistry and/or biological sciences background who are interested in the environmental impact, management, and regulation of waste pharmaceuticals as emerging issues. Offered Spring/Summer.
Restriction(s): Enrollment is limited to Graduate or Professional level students.
Equivalent: PSC 6910

CE 6991 Internship in Industry Cr. 1-4
Written report describing internship experience. Offered Every Term.
Repeatable for 4 Credits

CE 7020 Construction Safety Cr. 3
Safety problems in the construction industry and their technical and managerial solutions, construction accident and failure analysis and control. Safety program design and implementation with TQM integration. Offered Yearly.
Prerequisite: CE 6010 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

CE 7070 Risk and Reliability in Civil Engineering Cr. 3
Uncertainty in civil engineering practice (e.g., loads, traffic, water demand, construction quality). Reliability theory based on probabilistic and statistical methods. Reliability-based engineering design and decision making. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.

CE 7080 Civil Engineering Research Methods Cr. 3
Methods of data collecting and statistical analysis in context of civil engineering. Applications of advanced statistical analysis techniques, theory, discussion of methodological limitations. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.

CE 7190 Groundwater Modeling Cr. 3
Analytical and numerical models of groundwater hydraulics and contaminant transport. Application of theoretical material developed in C E 6190. Case studies of model applications to real field problems. Offered Yearly.
Prerequisite: CE 6190 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

CE 7220 Industrial Waste Treatment Cr. 4
A study of the sources of specific industrial waste waters and their treatability by physical, chemical and biological processes, including the industries' obligation in the prevention of stream pollution. Problems and solutions involved in combined treatment of industrial and domestic waste waters. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $10

CE 7260 Surface Water-Quality Modeling and Management Cr. 4
Principles and mechanisms governing the rate and transport of conventional and toxic pollutants in natural water; mathematical modeling of water quality in surface water systems; model applications for managing waste loads in lakes and rivers. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students.

CE 7280 Applied Environmental Microbiology Cr. 3
Provides knowledge of microbiology, roles and relations of microorganisms to the environment. Topics include practical applications of environmental microbiology to environmental issues including water treatment, biodegradation and bioremediation of environmental pollutants, production of alternative fuels, and emerging environmental concern. Special consideration will be given to water treatment and microbe-mediated cycling of organic materials (i.e. pollutants) in a variety of natural and engineered environment. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.

CE 7300 Advanced Structural Mechanics Cr. 3
Theory of bending and torsion of bars, beams on elastic foundations. Introduction to theory of thin plates. Linear elastic fracture mechanics, application to brittle solids. Offered Fall.
Prerequisite: CE 6330 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

CE 7311 Sustainability of Urban Environmental Systems Cr. 2
Students will be introduced to topics in urban sustainability from multiple disciplinary perspectives such as: ecology, anthropology, communication, engineering, economics and urban planning. Questions in fostering a more sustainable urbanism will be introduced and evaluated. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: BIO 7310

CE 7370 Advanced Finite Element Analysis Cr. 3
Advanced topics in finite element analysis; stability analysis and vibrations of structural systems; modeling of complex structures, dynamic analysis, and nonlinear structural problems; and computer applications. Offered Every Other Year.
Prerequisite: CE 5370 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

CE 7380 Advanced Topics in Steel Design Cr. 3
Focuses on steel plasticity, plastic mechanism analysis, and the application of these concepts to design for strength and stability of steel structures. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.

CE 7385 Advanced Topics in Reinforced Concrete Design Cr. 3
Focuses on reinforced concrete plasticity, plastic mechanism analysis, and the application of these concepts to design for strength of reinforced concrete structures. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.

CE 7460 Advanced Composite Materials for Civil Infrastructure Cr. 3
Infrastructure problems. Advanced fiber reinforced plastics, including applications in primary/secondary and marine structures, and in rehabilitation. High performance fiber reinforced concrete. Controlled composite properties via composite design. Review of composite analysis and failure criteria based on micromechanics and laminate theory. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.

CE 7500 Engineering Properties of Soils Cr. 4
Overview of experimental methods in geotechnical engineering, instrumentation and data acquisition methods, statistical analysis of test data, tests and theories for settlement predictions, tests and theories for hydraulic conductivity determination, tests and theories for static and cyclic stress-strain-volume change behavior of soils. Offered Every Other Year.
Prerequisite: CE 5510 with a minimum grade of C and CE 5520 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

CE 7550 Geosynthetics Engineering Cr. 4
Fundamental principles for testing, design, and construction of geosynthetics in civil engineering applications. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.

CE 7580 Environmental Remediation Cr. 4
Site assessment; soil and groundwater investigation for remediation; application of remediation technologies; legislation related to remediation. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.

CE 7600 Highway Safety and Risk Management Cr. 3
The focus of this course is on developing knowledge, skills, and abilities for planning, managing, and operating safe roadways for all users and modes of travel. It includes analysis of roadway design alternatives, statistical analysis of roadway safety issues, and crash countermeasure selection and evaluation. Students should have prior knowledge of the roadway geometric design process, traffic flow fundamentals (i.e., volume, density, speed, etc.), traffic control devices, and basic statistics (linear regression, t-tests, p-values, etc.). Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.

CE 7620 Traffic Engineering Control and Operation Cr. 3
Traffic flow theories, macroscopic and microscopic models of traffic control, statistical analysis; design and application of intelligent transportation systems on traffic flow characteristics; evaluation. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.

CE 7630 Urban Transportation Planning Cr. 4
Planning and analysis of urban transportation, travel demand models, land use planning and public transportation; household and origin-destination survey techniques; and demand elasticities multi-criteria evaluation. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.

CE 7640 Economic Analysis in Transportation Systems Cr. 4
Application of engineering economy and price theory in optimization of transportation systems; analysis of congestion costs, externalities, primary and secondary costs and benefits; evaluation of alternatives and completed projects and programs. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.

CE 7670 Advanced Traffic Signal Systems Cr. 3
Analysis and design of traffic signal systems. Hardware, communication and detection systems associated with microcomputer-based signal systems. Coordinated signal systems. Offered Every Other Year.
Prerequisite: CE 7620 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

CE 7830 Construction Planning and Scheduling Cr. 3
Planning and scheduling of construction projects, project networks and critical path methods, resource leveling, use of Primavera software. Offered Yearly.
Prerequisite: CE 6010 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

CE 7840 Facilities Management Cr. 3
Buildings and grounds operations and maintenance, planning design and construction, facilities economics and financing, real estate administration, environmental health and safety, health issues. Offered Winter.
Prerequisite: CE 6010 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

CE 7850 Construction Contract Administration Cr. 3
Project documentation; project setup and contract directory development; adding new contracts; purchase orders; recording materials deliveries; producing daily reports; preparing minutes of meetings; log submittals and handling correspondence; tracking contracts and costs, setup and preparing progress payment requisitions, managing claims and change orders. Offered Every Other Year.
Prerequisite: CE 6010 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

CE 7860 Construction Accounting and Financial Management Cr. 3
Construction financial management, construction accounting systems, analysis of financial statements, monitoring and controlling construction costs, managing overhead costs, markup, profit center analysis, cash flows for construction projects, financing, making financial decisions. Offered Every Other Year.
Prerequisite: CE 6010 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

CE 7890 Integrated Construction Project Management Cr. 3
Construction project management framework, construction project integration, project scope management, time management, cost management, quality management, procurement management, risk management, communication management. Offered Every Other Year.
Prerequisite: CE 7830 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

CE 7990 Directed Study Cr. 1-4
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 6 Credits

CE 7995 Special Topics in Civil Engineering II Cr. 1-3
A consideration of special subject matter in civil engineering. Topics to be announced in Schedule of Classes. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 12 Credits

CE 7996 Research Cr. 1-4
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 6 Credits

CE 8999 Master's Thesis Research and Direction Cr. 1-8
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students with a class of Candidate Masters.
Repeatable for 8 Credits

CE 9990 Pre-Doctoral Candidacy Research Cr. 1-8
Research in preparation for doctoral dissertation. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 12 Credits

CE 9991 Doctoral Candidate Status I: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.

CE 9992 Doctoral Candidate Status II: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: CE 9991 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

CE 9993 Doctoral Candidate Status III: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: CE 9992 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

CE 9994 Doctoral Candidate Status IV: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: CE 9993 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

CE 9995 Candidate Maintenance Status: Doctoral Dissertation Research and Direction Cr. 0
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $370.26
Repeatable for 0 Credits

CED - COUNSELOR EDUCATION

CED 5030 Counseling Clients with Addictions Cr. 2
An introduction to assessing, diagnosing, conceptualizing, and treating counseling clients who have addictions. Offered for graduate credit only. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.

CED 5090 Family Counseling and Substance Use Cr. 3
Conceptual and clinical foundations for counseling family systems in which one more members has a substance use disorder or addiction. Offered Intermittently.
Prerequisites: CED 5030

CED 6070 Introduction to Counseling Cr. 3
Overview of counseling profession, including: helping process, theories of counseling and consulting, training, credentialing, ethical and legal standards, professional organizations, history and trends of basic research. Offered Every Term.

CED 6080 Theories of Counseling Cr. 3
Major theories of counseling: client-centered, rational-emotive, Gestalt, Adlerian, reality, psychoanalytic, behavioral, cognitive. Ethical, legal, multicultural factors in conceptualization and delivery of counseling services in school, rehabilitation and community agency settings. Offered Every Term.

CED 6700 The Role of the Teacher in Guidance Cr. 2
Introduction to guidance principles, techniques and roles, with stress on classroom application. Experiential laboratory sessions required to sensitize educators to the basic ideas and skills involved in being a helper. Primarily for school personnel other than counselors. Offered Every Term.
Restriction(s): Enrollment limited to students in the College of Education.

CED 6710 Professional Seminar: Contemporary Issues Cr. 1-6
Principles, procedures and methods specific to a critical contemporary issue, such as: child abuse, sexual abuse, bereavement, stress management, infectious diseases, self-esteem, self-efficacy, conflict management, and trauma. Offered Every Term.
Repeatable for 6 Credits

CED 6720 Workshop in Counseling Cr. 2-4
For counselors, teachers, and pupil personnel workers. Consideration of counseling issues in school, agency and community settings. Counseling, consultation, and coordination dimensions of counseling in substance abuse, family groups, and human sexuality issues. Offered Every Term.
Repeatable for 18 Credits

CED 7000 Introduction to Group Work Cr. 2
Seminar in group counseling theories; basic elements of group process: stages of group development including group leadership styles, group dynamics, guidelines for multicultural and rehabilitation practice, ethical and professional issues in group practice, use of skills and techniques applicable to various counseling sessions. Offered Every Term.
Prerequisites: CED 6070 with a minimum grade of C or CED 6080 with a minimum grade of C
Corequisite: CED 7010
Restriction(s): Enrollment is limited to Graduate level students.

CED 7010 Group Counseling Participation Cr. 2
Group counseling sessions to experience counseling from the client's perspective and to become familiar with procedures and methods of group counseling in community agency, school, and rehabilitation settings. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.

CED 7020 Counseling Internship Cr. 1-12
Supervised field experience (100 clock hours per credit hour enrolled) designed to give students orientation to the responsibilities of a counselor at a cooperating agency or institution. Students attend on-campus seminars to discuss professional counseling and supervision issues. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: AED 7890, RCI 7460
Repeatable for 12 Credits

CED 7030 Counseling and Consulting Services in Community Agencies Cr. 3
Consultation theory and processes in agencies and post-secondary educational institutions. Roles and functions of counselors in program and proposal development; conflict management; organization; administration; and evaluation of services; public relations; knowledge of community referral resources and referral process. Offered Yearly.
Prerequisite: CED 6070 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

CED 7040 Techniques of Counseling Cr. 4
Techniques, ethics and process of counseling. Facilitative relationships, case conceptualization, goal setting, intervention, and outcome evaluation. Development of counseling skills to facilitate growth or change with respect to psychological, vocational and social concerns through self-advocacy, cognitive, affective, and behavioral interventions. Analysis and practice using simulated cognitive experiences. Offered Every Term.
Prerequisite: CED 6070 with a minimum grade of C or CED 6080 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: RCI 7110

CED 7055 School Counselor: Postsecondary Planning and College Counseling Cr. 2
Role of the School Counselor in relation to postsecondary planning and college counseling. The Eight Components of College and Career Readiness approach will be used to educate school counselors to prepare and inspire students for college success and opportunity. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major, minor, or concentration in School Counseling.

CED 7070 School Guidance, Counseling, and Consulting Cr. 4
Principles and practices of counseling, guidance, and consulting in the K-12 school setting. Focus on individual and group approaches that facilitate student development and adjustment; staff, parental, and community resources and referral procedures; program development, operation, and evaluation. Offered Winter.
Prerequisite: CED 6070 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

CED 7080 Career Development and Counseling Cr. 3
Career development theories, career exploration and career preparation methods including: information, leisure, decision making, career-related assessment, use of non-traditional resources and computer-assisted guidance systems, use of occupational information and labor market surveys in career counseling, work-adjustment training, and strategies/skills for adapting vocational and educational resources for use in rehabilitation, school, business and community agency settings. Offered Every Term.
Prerequisite: CED 6070 with a minimum grade of C and RCI 7410 (may be taken concurrently) with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $30

CED 7090 Advanced School Guidance, Counseling and Consulting Cr. 3
Advanced principles and practices of counseling and consultation in school settings. The focus is on the holistic approach to enhance and facilitate student growth, development, and self-awareness as it relates to the demands of the School Counselor. Offered Yearly.
Prerequisites: CED 7070 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major, minor, or concentration in School Counseling.

CED 7120 Assessment for Counselors and Rehabilitation Cr. 3
Overview of psychological, educational and vocational assessment techniques, including specific assessment applications such as clinical assessment, communicating assessment results, assessment with diverse populations, and ethical issues. Offered Winter.
Prerequisites: RCI 7410 with a minimum grade of C, RCI 7420 with a minimum grade of C, and RCI 7480 with a minimum grade of C or CED 6070 with a minimum grade of C and CED 6080 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $82
Equivalent: RCI 7120

CED 7150 Counseling Practicum Cr. 4
Course includes client contact and supervision seminar. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $25
Equivalent: AED 7380, RCI 7430

CED 7730 Cultural and Diversity Issues in Mental Health Treatment Research Cr. 3
Cognitive and experiential study of social and psychological variables that influence the cross-cultural counseling relationship. Emphasis on social identities of race, ethnicity, gender, age, ability, and sexual orientation. Offered Fall.
Prerequisite: CED 6080 with a minimum grade of C and RCI 7410 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

CED 8000 Seminar in Group Counseling Cr. 3
Students counsel groups which they have established. Tape and/or process recordings of counseling sessions analyzed to develop a theory and method of group counseling, group leadership, and techniques in the counseling of individuals in groups. Offered Every Other Year.
Prerequisite: CED 7000 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

CED 8020 Advanced Practicum Cr. 2-8
Supervised practice counseling in the counseling laboratory. Counseling competence evaluated. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Graduate level students.

CED 8030 Advanced Consultation Theory and Methods Cr. 3
Advanced consultation theory and methods in agencies and educational institutions. Roles and functions of counselor educators and supervisors in program and proposal development; organization, administration, and evaluation of services; conflict management; third party intervention; legal and ethical issues; public relations. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.

CED 8040 Advanced Counseling Theory and Method Cr. 3
Theories of personality and learning applied to case diagnosis and projected remediation. Offered Every Other Year.
Prerequisite: CED 6080 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

CED 8080 Advanced Career Development and Counseling Cr. 2-4
For advanced students in guidance and counseling and related areas. Current trends and changes in career guidance and career education; their implications for guidance and counseling programs. Consideration of related topics. Offered Every Other Year.
Prerequisite: CED 7080 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 8 Credits

CED 9020 Internship in Counseling/Counselor Education Cr. 1-6
Purposes, objectives, materials, techniques and practices in counselor education programs. Supervised experience in advanced counseling and in various phases of the counselor education program. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Counseling; enrollment limited to students in a Doctor of Education, Doctor of Philosophy or Education Specialist Cert degrees.
Repeatable for 24 Credits

CED 9120 Seminar and Internship Supervising Counselors Cr. 3
Theory and practice of supervision. Students supervise practicum counselors under staff guidance. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Counseling; enrollment limited to students in a Doctor of Education, Doctor of Philosophy or Education Specialist Cert degrees.

CED 9520 Advanced Research on Disability and Human Behavior Cr. 3
Comprehensive knowledge in disability studies to inform research and teaching and to develop scholarly skills. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Education; enrollment is limited to students with a major in Counseling; enrollment limited to students in the PhD in Education program.

CHE - CHEMICAL ENGINEERING

CHE 2800 Material and Energy Balances Cr. 4
Material balances, stoichiometry and simultaneous mass energy balances. Offered Winter.
Prerequisites: PHY 2170 with a minimum grade of C- or PHY 2175 with a minimum grade of C- and MAT 2020 with a minimum grade of C-
Course Material Fees: $10

CHE 3100 Transport Phenomena I Cr. 3
Presents a practical introduction to the field of transport phenomena and its applications, with a primary focus on the transport of momentum and mechanical energy balances in engineering systems. Students will develop the mathematical tools and skills necessary to design and analyze chemical process systems involving the movement or transfer of fluids (i.e., momentum transport) and the interchange among forms of mechanical energy as fluids flow. Offered Winter.
Prerequisite: CHE 2800 with a minimum grade of C- and BE 1500 with a minimum grade of C-
Corequisite: MAT 2150
Restriction(s): Enrollment limited to students in the College of Engineering.

CHE 3220 Measurements Laboratory Cr. 2
Laboratory course in the principles and practice of measuring chemical, physical and thermodynamic properties of importance to chemical engineering problems. Technical reports. Offered Winter.
Prerequisites: BE 2100 with a minimum grade of C- and CHE 3200 with a minimum grade of C- or CHE 3600 with a minimum grade of C- and ENG 3050 with a minimum grade of C- and BE 1500 with a minimum grade of C-
Restriction(s): Enrollment limited to students in the College of Engineering; enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering.
Course Material Fees: $25

CHE 3300 Thermodynamics: Chemical Equilibria Cr. 4
Qualitative and quantitative treatment of homogeneous and heterogeneous phase and chemical equilibria. Use of chemical activities and activity coefficients relating ideal to actual systems. Use of reference states and excess properties of the prediction of equilibrium diagrams and the determination of feasibility of chemical reactions. Offered Fall.
Prerequisites: BE 1500 with a minimum grade of C- and CHE 2800 with a minimum grade of C- and MAT 2150 with a minimum grade of C-
Restriction(s): Enrollment limited to students in the College of Engineering; enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering.
Course Material Fees: $10

CHE 3400 Kinetics and Reactor Design Cr. 4
Quantitative treatment of complex homogeneous and heterogeneous chemical reactions and the design of batch, stirred and flow reactor systems. Offered Winter.
Prerequisites: BE 1500 with a minimum grade of C- and CHE 3300 with a minimum grade of C- and CHE 3600 with a minimum grade of C- and MAT 2150 with a minimum grade of C-
Restriction(s): Enrollment limited to students in the College of Engineering; enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering.
Course Material Fees: $10

CHE 3510 Co-op Experience Cr. 1-3
Presentation of oral and written report to peer group describing Co-op experience. Attendance required at the CHE and MSE seminar series for the semester. Offered Every Term.
Prerequisites: CHE 4260 with a minimum grade of C-
Restriction(s): Enrollment limited to students in the College of Engineering; enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering.
Repeatable for 3 Credits

CHE 3600 Transport Phenomena II Cr. 3
Presents a practical introduction to the field of transport phenomena and its applications, with a primary focus on the transport of heat and mass of chemical species in engineering systems. Students will develop the mathematical tools and skills necessary to design and analyze chemical process systems involving the movement or transfer of thermal energy (i.e., heat transfer) and movement of a chemical species under a concentration gradient (i.e. mass transfer and diffusion). Offered Fall.
Prerequisite: BE 1500 with a minimum grade of C- and CHE 2800 with a minimum grade of C- and CHE 3100 with a minimum grade of C-
Restriction(s): Enrollment limited to students in the College of Engineering; enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering.

CHE 3800 Separation Processes Cr. 3
Quantitative treatment of separation processes in which there is simultaneous heat and mass transfer. Offered Winter.
Prerequisite: BE 1500 with a minimum grade of C- and CHE 3100 with a minimum grade of C- and CHE 3300 with a minimum grade of C- and CHE 3600 with a minimum grade of C-
Restriction(s): Enrollment limited to students in the College of Engineering; enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering.
Course Material Fees: $10

CHE 3820 Chemical Engineering Laboratory Cr. 2
Experimental study of chemical equilibria, reaction kinetics and rate processes. Laboratory case studies. Offered Fall.
Prerequisites: CHE 3220 with a minimum grade of C- and CHE 3400 with a minimum grade of C- and CHE 3800 with a minimum grade of C- and BE 1500 with a minimum grade of C- and ENG 3060 with a minimum grade of C-
Restriction(s): Enrollment limited to students in the College of Engineering; enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering.
Course Material Fees: $25

CHE 4200 Product and Process Design Cr. 3
The overall design of chemical products, systems, and processes. Economic analysis, computational design calculations, and optimization of design based on factors such as economics, environmental protection and waste minimization, and safety. Offered Fall.
Prerequisite: CHE 3800 with a minimum grade of C- and CHE 3400 with a minimum grade of C-
Restriction(s): Enrollment limited to students in the College of Engineering; enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering.

CHE 4260 Chemical Engineering Seminar I Cr. 0
Offered Fall, Winter.
Prerequisite: CHE 3200 with a minimum grade of C- or CHE 3600 with a minimum grade of C- and CHE 3300 with a minimum grade of C- and CHE 3220 (may be taken concurrently) with a minimum grade of C-
Restriction(s): Enrollment limited to students in the College of Engineering; enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering.

CHE 4600 Process Dynamics and Simulation Cr. 3
Application of system dynamics and mathematical modeling to design and analysis of chemical processing systems. Offered Fall.
Prerequisite: CHE 3400 with a minimum grade of C- and CHE 3800 with a minimum grade of C-
Restriction(s): Enrollment limited to students in the College of Engineering; enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering.
Course Material Fees: $10

CHE 4800 Chemical Process Integration Cr. 3
Satisfies General Education Requirement: Writing Intensive Competency
Application of engineering and science background to the design of chemical processes. Comprehensive problems deal with sources of data, design principles and optimization techniques. Offered Fall.
Prerequisite: CHE 4200 with a minimum grade of C-
Restriction(s): Enrollment limited to students in the College of Engineering; enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering.

CHE 4860 Chemical Engineering Seminar II Cr. 1
Offered Fall, Winter.
Prerequisite: CHE 4260 with a minimum grade of C-
Restriction(s): Enrollment limited to students in the College of Engineering; enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering.

CHE 4990 Directed Study Cr. 1-9
Students select a field of chemical engineering for advanced study and instruction. Offered Every Term.
Restriction(s): Enrollment limited to students in the College of Engineering; enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering.
Repeatable for 9 Credits

CHE 5050 Statistics and Design of Experiments Cr. 3
Application of modern statistical experimental design methods to improve effectiveness and success in experimental projects, in chemical industry manufacturing, and research and design. Offered Winter.
Prerequisites: BE 2100 with a minimum grade of C- and BE 1500 with a minimum grade of C- and CHE 3200 with a minimum grade of C- or CHE 3600 with a minimum grade of C- and CHE 3300 with a minimum grade of C-

CHE 5100 Quantitative Physiology Cr. 4
Basic principles of human physiology presented from the engineering perspective. Bodily functions, their regulation and control discussed in quantitative terms and illustrated by mathematical models where feasible. Offered Fall, Winter.
Equivalent: BME 5010, ECE 5100, ME 5100

CHE 5110 Fundamental Fuel Cell Systems Cr. 4
Introduce various types of fuel cells, materials properties of electrodes and polymeric membranes, and electrochemical mechanisms. Reforming of various types of hydrocarbon fuel to hydrogen, and reforming technology. Offered Fall.
Equivalent: AET 5110, EVE 5130, ME 5110

CHE 5120 Fundamentals of Battery Systems for Electric and Hybrid Vehicles Cr. 4
Fundamental electrochemistry and engineering aspects for electric propulsion batteries, including lead acid, nickel metal hydride, and lithium ion technologies. Offered Winter.
Equivalent: AET 5310, EVE 5120, ME 5215

CHE 5350 Polymer Science Cr. 3
Fundamental relationships between chemical structure and physical properties of high polymers. Basic structures, states and transitions of polymers. Polymerization reactions and processes. Molecular weight, viscous flow and mechanical properties of polymers. Offered Fall.
Prerequisites: May be taken concurrently: MAT 2150 with a minimum grade of C-
Course Material Fees: $10
Equivalent: MSE 5350

CHE 5360 Polymer Processing Cr. 3
A detailed analysis of polymer processing. Rheology of polymers, flow in tubes, calendering, extrusion, coating and injection molding. Offered Winter.
Prerequisites: CHE 3200 with a minimum grade of C-
Course Material Fees: $10
Equivalent: MSE 5360

CHE 5450 Nanocarrier-based Drug Delivery Systems Cr. 3
Fundamental concepts in nanotechnology as it relates to drug delivery, and some of the applications and breakthroughs in this area as it applies to medicine. Offered Fall.
Prerequisites: CHE 5420 with a minimum grade of C-
Restriction(s): Enrollment is limited to Graduate or Undergraduate level students; enrollment limited to students with a class of Unranked Undergrad, Junior or Senior.

CHE 5811 Research Preparation II Cr. 1
Preparation for Senior Research Project, CHE 6810. Offered Every Term.
Prerequisites: CHE 3200 with a minimum grade of C- and CHE 3300 with a minimum grade of C-

CHE 5995 Special Topics in Chemical Engineering I Cr. 1-4
A consideration of special subject matter in chemical engineering. Topics to be announced in Schedule of Classes . Offered Every Term.
Repeatable for 8 Credits

CHE 5996 Chemical Engineering Research Cr. 1-6
Research project. Offered Every Term.
Restriction(s): Enrollment limited to students in the College of Engineering; enrollment limited to students in the following programs: BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering.

CHE 6100 Introduction to Sustainable Engineering Cr. 3
Economic, environmental, social, and technological perspectives relevant to the design, operation and management of engineering activities. Multiple perspectives addressed from a system sustainability view point. Offered Yearly.
Equivalent: STE 6100

CHE 6450 Biochemical Engineering Cr. 3
An introductory study of the principles of chemical engineering, biochemistry and biology which are essential for the design of industrial systems involving biological transformations. Offered Intermittently.
Prerequisites: CHE 3400 with a minimum grade of C- or CHE 3800 with a minimum grade of C-

CHE 6570 Safety in the Chemical Process Industry Cr. 3
Fundamental and practical experience necessary for safe operation of a chemical process plant. Actual industrial case studies conducted under industry supervision. Offered Winter.
Prerequisites: CHE 3400 with a minimum grade of C- or CHE 3800 with a minimum grade of C-

CHE 6610 Risk Assessment Cr. 3
Introduction to risk assessment in environmental hazard management with emphasis on the chemical industry, including hazard identification, exposure analysis and risk characterization. Offered Fall.

CHE 6810 Chemical Engineering Research Project Cr. 4
Satisfies General Education Requirement: Writing Intensive Competency
Application of engineering and science background to the completion of a senior research project. Methods of research and analysis and interpretation of data. Preparation of a written research paper; oral presentation of research results. Offered Winter.
Prerequisite: CHE 4200 with a minimum grade of C- and CHE 5710 with a minimum grade of C-

CHE 7100 Advanced Engineering Mathematics Cr. 3
Presentation, evaluation and use of mathematical methods within the framework of engineering problems; including ordinary and partial differential equations, transforms and vector operations. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: MSE 7100

CHE 7200 Advanced Transport Phenomena Cr. 3
Basic properties of heat, mass and momentum transfer systems; fundamental equations, transforms and vector operations; includes independent study project. Offered Winter.
Prerequisite: CHE 7100 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

CHE 7300 Advanced Thermodynamics Cr. 3
Advanced presentation of the principles of thermodynamics; application to open systems, phase diagrams and chemical equilibria. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: MSE 7300

CHE 7350 Polymer Solutions Cr. 3
Solubility of polymers, configuration of chain molecules, colligative properties of dilute polymer solutions, spectroscopy, optical activity, light and x-ray scattering of polymer solutions, frictional properties of dissolved polymers, solution properties of polyelectrolytes. Offered Every Other Year.
Prerequisite: CHE 5350 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

CHE 7390 Tissue Engineering and Hybrid Systems Cr. 4
Seminar and project based approach to the design, development, analysis and application of organ and tissue replacement systems which incorporate processed materials and living cells. Offered Every Other Year.
Prerequisites: BME 5370 with a minimum grade of C and BME 5020 with a minimum grade of C or CHE 7100 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: BME 7390

CHE 7400 Advanced Kinetics and Reactor Design Cr. 3
Basic properties of reacting systems including the steady state approximation, the relationship of thermodynamics to kinetics, the treatment of coupled reaction problems and design of chemical reactors; includes independent study project. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $10

CHE 7490 Biomedical Microsystems Cr. 4
Biomedical microsystems, with a focus on microfluidics and lab-on-a-chip technologies for medical diagnostics and biological research. Broad coverage of microscale physics; microfabrication methods; separation, purification, and other on-chip processes; biosensing. Offered Fall.
Prerequisite: ECE 5575 with a minimum grade of C or ECE 6570 with a minimum grade of C or BME 6470 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: BME 7490, ECE 7590

CHE 7990 Directed Study Cr. 1-9
Library investigation of an approved project in chemical engineering. Independent study, conferences with supervisor and preparation of a comprehensive written and oral report. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.

CHE 7995 Special Topics in Chemical Engineering II Cr. 1-4
A consideration of special subject matter in chemical engineering. Topics to be announced in Schedule of Classes . Offered Fall, Winter.
Restriction(s): Enrollment is limited to Graduate level students.

CHE 8510 Graduate Co-op Experience Cr. 1-3
Presentation of oral and written reports to peer group describing co-op experience. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.

CHE 8996 Research Cr. 1-9
Library and laboratory investigation of an approved proposal for advanced research project. Conferences and periodic oral progress reports. Comprehensive report of entire project upon completion. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 30 Credits

CHE 8997 Chemical Engineering Graduate Seminar Cr. 0.5
Advanced concepts in chemical engineering; presentation of research results. Must attend and present evidence of attending 30 hours of seminar over two-year period, and present one seminar. Offered Every Term.
Prerequisite: CHE 7200 with a minimum grade of C and CHE 7400 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

CHE 8999 Master's Thesis Research and Direction Cr. 1-8
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students with a class of Candidate Masters.
Repeatable for 8 Credits

CHE 9990 Pre-Doctoral Candidacy Research Cr. 1-8
Research in preparation for doctoral dissertation. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 12 Credits

CHE 9991 Doctoral Candidate Status I: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.

CHE 9992 Doctoral Candidate Status II: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: CHE 9991 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

CHE 9993 Doctoral Candidate Status III: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: CHE 9992 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

CHE 9994 Doctoral Candidate Status IV: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: CHE 9993 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

CHE 9995 Candidate Maintenance Status: Doctoral Dissertation Research and Direction Cr. 0
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $370.26
Repeatable for 0 Credits

CHI - CHINESE

CHI 1005 Introduction to Chinese Culture and Language Cr. 3
Conversational Chinese, Chinese culture and customs, everyday Chinese street signs and symbols essential to travel and business in China. Offered for undergraduate credit only. Offered Every Term.

CHI 1006 Chinese Learning Community Cr. 1
Experiential learning course; participation in Chinese cultural events and supplemental Chinese language sessions. Students comment on a minimum of eight approved events via a discussion board, attend language sessions, and present a final project. Offered for undergraduate credit only. Offered Fall, Winter.
Prerequisite: CHI 1005 with a minimum grade of D-

CHI 1010 Elementary Chinese I Cr. 4
Introduction to the written and spoken forms of Chinese. Offered for undergraduate credit only. Offered Yearly.
Course Material Fees: $5

CHI 1020 Elementary Chinese Cr. 4
Continuation of CHI 1010. Offered for undergraduate credit only. Offered Yearly.
Prerequisites: CHI 1010 with a minimum grade of D-
Course Material Fees: $5

CHI 2000 Chinese Phonetics Cr. 1
Students will have the hands-on experience of learning Chinese sounds and tones with the intensive instruction and correction of the instructor. After studying the articulatory mechanisms for the Chinese phonetic inventory and system in theory, students will practice them in different combinations and contexts with that native accuracy as the target. Offered Winter.
Equivalent: LIN 2000
Repeatable for 2 Credits

CHI 2010 Intermediate Chinese Cr. 4
Satisfies General Education Requirement: Foreign Culture, Global Learning Inquiry
Completion of Chinese language sequence. Offered Yearly.
Prerequisite: CHI 1020 with a minimum grade of D-
Course Material Fees: $5

CHI 2020 Intermediate Chinese II Cr. 4
Continuation of CHI 2010. Offered Winter.
Prerequisites: CHI 2010 with a minimum grade of D-

CHI 2030 Chinese Character Writing Cr. 3
The most difficult part of Chinese learning is character writing. Basic stroke orders, intermediate literacy level. Art of Chinese calligraphy. Offered Spring/Summer.
Prerequisites: CHI 1010 with a minimum grade of D-

CHI 2050 Gateway to Chinese Civilizations Cr. 3
Satisfies General Education Requirement: Cultural Inquiry, Global Learning Inquiry
Introduction to Chinese culture, society, and politics. Offered Every Term.

CHI 3000 Chinese Mythology and the Supernatural Cr. 3
Satisfies General Education Requirement: Cultural Inquiry
The study of Chinese mythical and supernatural literature from the late Zhou through the Qing dynasties (from around 10th century BCE to 18th century CE); the cultural functions of myth and the supernatural as they relate to nation, ethnic identities, social and political structures, as well as religious and philosophical ideals. Taught in English. Offered Fall, Winter.

CHI 3010 Contemporary Chinese Pop Culture Cr. 3
Introduction to Chinese pop culture: values, functions, and changes. Offered Winter.

CHI 3022 Introduction to Chinese Literature Cr. 3
Satisfies General Education Requirement: Cultural Inquiry
Genres and traditions of Chinese literature; influence on China of today. Offered Every Term.

CHI 3100 Advanced Chinese I Cr. 4
Continuation of CHI 2020. Offered Fall.
Prerequisites: CHI 2020 with a minimum grade of D-

CHI 3200 Advanced Chinese II Cr. 4
Continuation of CHI 3100. Offered Winter.
Prerequisites: CHI 3100 with a minimum grade of D-

CHI 3990 Directed Study Cr. 1-6
Directed study tailored to student and faculty interests and specializations. Offered Every Term.
Repeatable for 9 Credits

CHI 4010 Business Chinese Cr. 3
Basic knowledge of business Chinese; basic abilities of listening, speaking, reading, writing, and translating in business Chinese. Offered Fall.
Prerequisites: CHI 3200 with a minimum grade of D-
Restriction(s): Enrollment is limited to Undergraduate level students.

CHI 5210 Introduction to Chinese Linguistics Cr. 3
Writing, sound and grammar systems of Chinese; interaction between Chinese language and Chinese society. Offered Fall.
Equivalent: LIN 5220

CHI 5220 Languages of Asia Cr. 3
Introduction to major language families in Asia; grammar, sounds, language contacts. Offered Winter.
Equivalent: JPN 5220, LIN 5100

CHI 5230 Grammar of Chinese Cr. 3
Chinese grammar from perspectives of negation, question formation, aspects and different parts of speech, and the like. Offered Fall.
Equivalent: LIN 5240

CHI 5300 Teaching Chinese as a Second Language Cr. 1-3
Introduction to basic teaching grammar and sound rules and general teaching methodology. Offered Winter.
Prerequisites: CHI 3100 with a minimum grade of D-
Equivalent: LED 5300

CHM - CHEMISTRY

CHM 1000 Chemistry and Your World Cr. 4
Satisfies General Education Requirement: Natural Scientific Inquiry, Physical Sciences
Facts and theories from analytical, inorganic, organic, and physical chemistry, and from biochemistry; their consequences in life processes and the environment. Meets General Education Laboratory Requirement when elected for 4 credits. Offered Fall, Winter.
Course Material Fees: $110

CHM 1020 Survey of General Chemistry Cr. 4
Satisfies General Education Requirement: Natural Scientific Inquiry, Physical Sciences
High school chemistry not required. First course in the terminal sequence consisting of CHM 1020 and CHM 1030. Matter and energy in chemistry, chemical symbols and equations, structure and properties of atoms, introduction to chemical bonding; periodicity in chemistry, solids, liquids, gases, solutions, acids and bases, and equilibrium. Meets General Education Laboratory Requirement. Offered Fall, Winter.
Prerequisites: Math Permit to Reg - L1-L4 with a test score minimum of 2-4 or MAT 0993-6XXX with a minimum grade of C or MAT Permit to Reg ACT/SAT with a test score minimum of 2-4 or ACT Math with a test score minimum of 18-36 or SAT Mathematics with a test score minimum of 490-800 or SAT MATH POST-2016 with a test score minimum of 490-800
Course Material Fees: $110

CHM 1030 Survey of Organic/Biochemistry Cr. 4
Organic and biological chemistry; brief introduction to organic chemistry, emphasizing classes of compounds important in biochemical processes; survey of biochemistry with applications to nutrition, physiology, and clinical chemistry; protein structure; intermediary metabolism; molecular biology; and metabolic regulation. Offered Winter.
Course Material Fees: $110

CHM 1040 Chemistry Skills and Reasoning Cr. 4
Reasoning and mathematical skills needed for development of a scientific approach in chemistry. No credit if taken after any other chemistry course. Offered Fall, Winter.
Prerequisites: Math Permit to Reg - L1-L4 with a test score minimum of 2-4 or MAT 0993 with a minimum grade of C or MAT 1050-6XXX with a minimum grade of C or MAT Permit to Reg ACT/SAT with a test score minimum of 2-4 or ACT Math with a test score minimum of 21-36 or SAT Mathematics with a test score minimum of 530-800 or SAT MATH POST-2016 with a test score minimum of 530-800

CHM 1220 General Chemistry I Cr. 4
Satisfies General Education Requirement: Natural Scientific Inquiry, Physical Sciences
Introduction to the principles of chemistry for students with high school background in chemistry. Chemical structure, bonding, and reactivity. Satisfies General Education laboratory requirement upon completion of both CHM 1220 and 1230. Only two credits if taken after CHM 1020. No credit after if taken after CHM 1225. Offered Every Term.
Prerequisites: CHM 1040 with a minimum grade of C- or CHM Permit to Reg L1-L3 CPE with a test score minimum of 2-3 or CHM 1020 with a minimum grade of C- and Math Permit to Reg - L1-L4 with a test score minimum of 3-4 or MAT Permit to Reg ACT/SAT with a test score minimum of 3-4 or MAT 1050 with a minimum grade of C- or MAT 1800-6ZZZ
Equivalent: CHM 1225

CHM 1225 General Chemistry I for Engineers Cr. 3
Satisfies General Education Requirement: Natural Scientific Inquiry, Physical Sciences
Introduction to principles of chemistry for students with high school background in chemistry. Chemical structure, bonding, and reactivity. Satisfies General Education laboratory requirement upon completion of both CHM 1225 and 1230. Only one credit after CHM 1020. No credit after CHM 1220. Offered Every Term.
Prerequisites: CHM 1040 with a minimum grade of C- or CHM Permit to Reg L1-L3 CPE with a test score minimum of 2-4 or CHM 1020 with a minimum grade of C- and Math Permit to Reg - L1-L4 with a test score minimum of 3-4 or MAT Permit to Reg ACT/SAT with a test score minimum of 3-4 or May be taken concurrently: MAT 1800-6ZZZ with a minimum grade of C-
Restriction(s): Enrollment limited to students in the College of Engineering.
Equivalent: CHM 1220

CHM 1230 General Chemistry I Laboratory Cr. 1
Laboratory course to introduce the scientific method, properties of materials, the role of energy, structure and spectroscopy. Satisfaction of General Education lab requirement is awarded only upon successful completion of both the prereq./coreq. course and this lab course. Offered Every Term.
Prerequisites: May be taken concurrently: CHM 1220 with a minimum grade of C- or CHM 1225 with a minimum grade of C-
Course Material Fees: $110

CHM 1240 Organic Chemistry I Cr. 4
Introductory organic chemistry combined with the general principles of chemistry. Carbon compounds and chemical bonding, acid-based chemistry, stereochemistry and introductory organic reactions. Offered Every Term.
Prerequisites: CHM 1050 with a minimum grade of C- or CHM 1070 with a minimum grade of C- or CHM 1220 with a minimum grade of C- and CHM 1230 with a minimum grade of C- or CHM 1225 with a minimum grade of C-

CHM 1250 Organic Chemistry I Laboratory Cr. 1
Integrated general/organic chemistry laboratory focusing on spectroscopy, acid-based chemistry, molecular modeling and organic reactions as well as some attention to chromatography. Offered Every Term.
Course Material Fees: $110

CHM 2220 Organic Chemistry II Cr. 4
Organic reactions of functional groups such as aldehydes, ketones and related carbonyl compounds. Extensive discussion of the interface of organic/biochemistry and bioinorganic chemistry. No credit after if taken after CHM 2225. Offered Every Term.
Prerequisites: CHM 2240 with a minimum grade of C- or CHM 1240 with a minimum grade of C- and CHM 1250 with a minimum grade of C-

CHM 2225 Organic Chemistry II for Engineers Cr. 3
Organic reactions of functional groups such as aldehydes, ketones and related carbonyl compounds. Extensive discussion of the interface of organic/biochemistry and bioinorganic chemistry. No credit after if taken after CHM 2220. Offered Every Term.
Prerequisites: CHM 1240 with a minimum grade of C- and CHM 1250 with a minimum grade of C-
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the College of Engineering.

CHM 2230 Organic Chemistry II Laboratory Cr. 1
Synthesis of organic and bio-organic compounds. Offered Every Term.
Prerequisites: May be taken concurrently: CHM 2220 with a minimum grade of C- or CHM 2225 with a minimum grade of C-
Course Material Fees: $110

CHM 2280 General Chemistry II: Analytical Chemistry Cr. 3
Concepts and calculations regarding kinetics, equilibrium, thermodynamics for a variety of reaction types. Qualitative and quantitative examples and applications. Offered Every Term.
Prerequisites: CHM 1410 with a minimum grade of C- or CHM 2240 with a minimum grade of C- or CHM 1240 with a minimum grade of C- and CHM 1250 with a minimum grade of C-

CHM 2290 General Chemistry II: Analytical Chemistry Laboratory Cr. 2
Study and use of acid-base redox, solubility precipitation, and complex forming reactions and equilibria in qualitative and quantitative chemistry. Offered Every Term.
Prerequisites: May be taken concurrently: CHM 2280 with a minimum grade of C-
Course Material Fees: $110

CHM 2999 Honors Research Problems in Chemistry Cr. 2-4
Research projects under the direction of a senior faculty member. Offered Every Term.
Prerequisites: CHM 1240 with a minimum grade of C and CHM 1250 with a minimum grade of C or CHM 1410 with a minimum grade of C

CHM 3000 Metals in Biology Cr. 3
Descriptive approach to metals involved in biological systems. Offered Fall.
Prerequisites: CHM 1240 with a minimum grade of C

CHM 3020 Intermediate Inorganic Chemistry I Cr. 3
Emphasizes chemistry of the main group elements and includes basic coordination chemistry of the transition metals. Offered Winter.
Prerequisites: CHM 1240 with a minimum grade of C

CHM 4850 Frontiers in Chemistry Cr. 1
Fields of fundamental chemistry now under investigation, presented by invited specialists actively engaged in research. Offered Fall, Winter.
Restriction(s): Enrollment is limited to students with a major in Chemistry or Chemistry Honors; enrollment limited to students in a BS in Chemistry or Bachelor of Arts degrees.
Repeatable for 2 Credits

CHM 5020 Intermediate Inorganic Chemistry II Cr. 3
Transition metal chemistry. Coordination compounds and organometallics. Bonding theories and reactivity. Synthesis, purification, and characterization of inorganic compounds with an emphasis on transition metal compounds. Offered Fall.
Prerequisites: CHM 6070 with a minimum grade of C or CHM 3020 with a minimum grade of C and CHM 5400-5440 with a minimum grade of C
Course Material Fees: $110

CHM 5160 Instrumental Analytical Chemistry Cr. 3
Application of modern instrumental methods to quantitative analysis. Methods that relate instrumental response to chemical concentrations or content. Calibration, data handling, and data evaluation. Emission, flame, infrared, Raman, fluorescence, and magnetic resonance spectroscopy. Mass spectrometry. Electrochemical methods. Chromatography. Offered Fall.
Prerequisites: CHM 5400 with a minimum grade of C or CHM 5420 with a minimum grade of C or CHM 5440 with a minimum grade of C and PHY 2180 with a minimum grade of C

CHM 5400 Biological Physical Chemistry Cr. 4
Presentation of physical chemistry topics: thermodynamics, solution equilibria, chemical kinetics, quantum chemistry, spectroscopy, statistical mechanics, transport processes, and structure with biological applications. Offered Winter.
Prerequisites: CHM 2280 with a minimum grade of C and MAT 2020 with a minimum grade of C and May be taken concurrently: MAT 2030 with a minimum grade of C and May be taken concurrently: PHY 2170 with a minimum grade of C

CHM 5420 Physical Chemistry I Cr. 3
Chemical thermodynamics, phase equilibrium, solutions, surface chemistry, electrochemistry. Only two credits applicable toward degree after CHM 5400. Offered Fall.
Prerequisites: CHM 2280 with a minimum grade of C and MAT 2020 with a minimum grade of C and May be taken concurrently: MAT 2030 with a minimum grade of C and May be taken concurrently: PHY 2170 with a minimum grade of C

CHM 5440 Physical Chemistry II Cr. 4
Kinetic theory, empirical and theoretical kinetics, quantum theory, atomic and molecular structure, molecular spectroscopy, statistical mechanics. Only three credits applicable to degree after CHM 5400. Offered Winter.
Prerequisites: CHM 2280 with a minimum grade of C and MAT 2020 with a minimum grade of C and May be taken concurrently: MAT 2030 with a minimum grade of C and May be taken concurrently: PHY 2170 with a minimum grade of C

CHM 5510 Chemical Synthesis Laboratory Cr. 3
Advanced techniques for the synthesis, purification and characterization of organic compounds. Offered Fall.
Prerequisites: CHM 1420 with a minimum grade of C or CHM 2220 with a minimum grade of C and CHM 2230 with a minimum grade of C
Course Material Fees: $110

CHM 5550 Physical Chemistry Laboratory Cr. 2
Satisfies General Education Requirement: Writing Intensive Competency
Principles of measurement. Fundamental investigations of thermodynamics. Fundamental spectroscopic and kinetic measurements. Offered Fall, Winter.
Prerequisites: May be taken concurrently: CHM 5400 with a minimum grade of C or CHM 5420 with a minimum grade of C or CHM 5440 with a minimum grade of C and PHY 2180 with a minimum grade of C
Course Material Fees: $110

CHM 5570 Instrumental Analytical Chemistry Laboratory Cr. 3
Lecture and laboratory experiments covering electronics, measurement, and instrumentation. Principles and analytical applications of electrochemistry, chromatography, and spectroscopy including UV-visible, IR, magnetic resonance, and mass spectroscopy. Offered Winter.
Prerequisites: CHM 5160 with a minimum grade of C
Course Material Fees: $110

CHM 5600 Survey of Biochemistry Cr. 3
Protein structure and its relationship to function. Principles of enzyme catalysis. Allosteric regulation of protein function and enzyme catalysis. Pathways of carbohydrate, fat, and protein metabolism in eukaryotic organisms. Introduction to mechanisms of energy coupling and photosynthesis. Information transfer in living systems. Molecular biology. Offered Fall, Winter.
Prerequisites: CHM 1420 with a minimum grade of C or CHM 2220 with a minimum grade of C or CHM 2225 with a minimum grade of C

CHM 5900 Biomedical Research as Discovery Cr. 2
Solving biochemical research problems using laboratory research tools including computational methods. Offered Yearly.
Prerequisites: CHM 6610 with a minimum grade of C and CHM 6620 with a minimum grade of C

CHM 5998 Honors Thesis Research in Chemistry Cr. 2-4
Original investigation under direction of senior staff member. Submission of B.S. thesis or manuscript in publication format. Presentation of public lecture on B.S. research. Offered Every Term.
Restriction(s): Enrollment is limited to students with a major in Biochem & Chem Bio Honors or Chemistry Honors.
Repeatable for 8 Credits

CHM 5999 Research in Chemistry Cr. 2-4
Original investigation under the direction of a senior staff member. Submission of B.S. thesis or manuscript in publication format. Offered Every Term.
Restriction(s): Enrollment is limited to students with a major in Biochem & Chem Bio Honors, Biochem & Chemical Biology, Chemistry or Chemistry Honors.
Repeatable for 8 Credits

CHM 6060 Materials Chemistry and Engineering Cr. 3
Solid state structure and bonding. Crystallography, defects, and non-stoichiometry. Phase diagrams. Synthesis and properties of extended solids and nanomaterials. Molecular interactions and statistical physics of soft matter. Synthesis and characterization techniques of polymeric and colloidal material. Physical properties, phase behavior, self-assembly and ordering in synthetic and biological soft matter. Offered Intermittently.
Prerequisites: CHM 3020 with a minimum grade of C

CHM 6070 Advanced Bioinorganic Chemistry Cr. 3
Applications of inorganic chemistry principles to understanding biological systems including metalloenzymes. Offered Winter.
Prerequisite: CHM 3000 with a minimum grade of C

CHM 6090 Organometallic Chemistry Cr. 3
Models and Applications of the Organometallic Chemistry of the Transition Metals including Activation of Small Molecules and Bioorganometallics. Offered Winter.
Prerequisite: CHM 5020 with a minimum grade of C

CHM 6170 Advances in Bioanalytical Chemistry Cr. 3
How analytical methods are used to obtain information regarding biological systems. Offered Intermittently.
Prerequisite: CHM 5160 with a minimum grade of C

CHM 6240 Organic Spectroscopy Cr. 3
Application of IR, NMR, UV, and mass spectrometry to the identification of organic compounds. Emphasis on interpretation of spectra, especially NMR. Recommended for students intending to do graduate or industrial work in organic chemistry. Offered Winter.
Prerequisite: CHM 1420 with a minimum grade of C or CHM 2220 with a minimum grade of C

CHM 6270 Advanced Bioorganic Chemistry and Drug Design Cr. 3
Studies of biological problems using organic synthetic methods and applications to drug design. Offered Fall.
Prerequisite: CHM 6620 with a minimum grade of C

CHM 6440 Computational Chemistry Cr. 3
Aspects of computational chemistry pertinent to effective use of molecular modeling techniques. Molecular mechanics, semi-empirical and ab initio calculations, molecular dynamics. Offered Intermittently.
Prerequisite: CHM 5440 with a minimum grade of C
Course Material Fees: $95

CHM 6570 Computational Biochemistry and Bioinformatics Cr. 3
Application of computational and molecular modeling software tools to biochemical problems. Offered Intermittently.
Prerequisite: CHM 5400 with a minimum grade of C

CHM 6610 Biological Chemistry Laboratory Cr. 3
Satisfies General Education Requirement: Writing Intensive Competency
Basic experiments in isolation, purification, and analysis of biomolecules. Techniques currently used in molecular biology and recombinant DNA procedures stressed. Offered Fall, Winter.
Prerequisite: CHM 6620 with a minimum grade of C
Restriction(s): Enrollment is limited to students with a major in Biochem & Chem Bio Honors, Biochem & Chemical Biology, Chemistry or Chemistry Honors.
Course Material Fees: $110

CHM 6620 Metabolism: Pathways and Regulation Cr. 3
Major metabolic pathways of carbohydrate, fatty acid, amino acid, and nucleotide synthesis and degradation. Pathways and mechanisms of energy generation. Hormonal and allosteric regulation of enzyme activity. Offered Fall.
Prerequisites: CHM 2220 with a minimum grade of C

CHM 6635 Tools of Molecular Biology Cr. 3
Principles underlying genetic and biochemical methods; complements work in lab CHM 6610. Offered Winter.
Prerequisite: CHM 6620 with a minimum grade of C

CHM 6640 Molecular Biology Cr. 3
Nucleic acid structure and function. Mechanism and control of replication, transcription, and translation. Mutation, genetic recombination, and recombinant DNA. Membranes and organelles. Offered Winter.
Prerequisite: CHM 6620 with a minimum grade of C

CHM 6740 Laboratory Safety Cr. 1-2
Discussion and demonstration of safe laboratory practice. Use, storage and disposal of ordinary and hazardous substances; personal protection devices; regulations and codes. Required for all graduate degrees in chemistry. Not for chemistry major credit Offered Fall, Winter.

CHM 6990 Directed Study Cr. 1-4
Offered Every Term.
Repeatable for 8 Credits

CHM 6991 Internship in Chemistry Cr. 1
Practical research experience through visiting a university, industry, or national laboratory. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Chemistry.
Repeatable for 2 Credits

CHM 7010 Descriptive Inorganic Chemistry Cr. 3
Reactions and reactivity of inorganic compounds. Emphasizes mechanistic and synthetic approaches to transition metal, organometallic, main group chemistry. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.

CHM 7060 Materials Chemistry and Engineering Cr. 3
Solid state structure and bonding. Crystallography, defects, and non-stoichiometry. Phase diagrams. Synthesis and properties of extended solids and nanomaterials. Molecular interactions and statistical physics of soft matter. Synthesis and characterization techniques of polymeric and colloidal material. Physical properties, phase behavior, self-assembly and ordering in synthetic and biological soft matter. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students.

CHM 7070 Advanced Bioinorganic Chemistry Cr. 3
Applications of inorganic chemistry principles to understanding biological systems including metalloenzymes. Offered Intermittently.
Prerequisite: CHM 3000 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

CHM 7080 Electron Microscopy Cr. 3
Basics of electron microscopy and its applications. The theory and practice of transmission and scanning electron microscopies, along with associated spectroscopies, will be presented. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students.

CHM 7090 Organometallic Chemistry Cr. 3
Models and Applications of the Organometallic Chemistry of the Transition Metals including Activation of Small Molecules and Bioorganometallics. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students.

CHM 7100 Theory of Analytical Chemistry Cr. 3
Physicochemical principles applied to reaction equilibria and kinetics of analytical importance. Approaches to problem solving in complex systems, principally in the solution phase. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.

CHM 7120 Electroanalytical Chemistry Cr. 3
The theory and practice of modern voltammetric methods as applied to analytical, kinetic, and mechanistic studies. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.

CHM 7142 Data Analysis Cr. 3
Application of statistics, chemometrics, and experimental design to the interpretation of chemical measurements; validation of analytical methods; practice and theory of sampling for chemical measurements. Offered Every Other Fall.
Restriction(s): Enrollment is limited to Graduate level students.

CHM 7170 Advances in Bioanalytical Chemistry Cr. 3
How analytical methods are used to obtain information regarding biological systems. Offered Intermittently.
Prerequisite: CHM 5160 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

CHM 7180 Mass Spectrometry Cr. 3
Topics will include ICP, ICP-MS, AA, LIBX, MIPS, etc. Instrumentation concepts. Review of contemporary literature. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students.

CHM 7200 Organic Structures and Mechanisms Cr. 3
Structure and stereochemistry of organic molecules. Correlations between structure and chemical and physical properties. Reaction mechanisms. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.

CHM 7220 Organic Reactions and Synthesis Cr. 3
Alkylation, condensation, and Grignard reactions; synthesis of acid derivatives; cycloadditions and unimolecular rearrangements. Scope and limitations of important synthetic methods of organic chemistry. Offered Winter.
Prerequisite: CHM 7200 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

CHM 7240 Organic Spectroscopy Cr. 3
Application of IR, NMR, UV, and mass spectrometry to the identification of organic compounds. Emphasis on interpretation of spectra, especially NMR. Recommended for students intending to do graduate or industrial work in organic chemistry. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students.

CHM 7270 Advanced Bioorganic Chemistry and Drug Design Cr. 3
Studies of biological problems using organic synthetic methods and applications to drug design. Offered Intermittently.
Prerequisite: CHM 6620 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

CHM 7430 Chemical Kinetics Cr. 3
Empirical analysis of reaction rates, theories of chemical kinetics, gas phase reactions, molecular collisions and non-thermal reactions, and kinetics in liquids. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.

CHM 7440 Computational Chemistry Cr. 3
Aspects of computational chemistry pertinent to effective use of molecular modeling techniques. Molecular mechanics, semi-empirical and ab initio calculations, molecular dynamics. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $15

CHM 7470 Quantum Chemistry Cr. 3
Theorems of quantum mechanics, approximation methods, solutions to simple atomic and molecular systems, electronic structure of many-electron atoms and molecules, chemical bonding. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.

CHM 7480 Molecular Spectroscopy Cr. 3
Basic theory of interaction of molecules with the electromagnetic field. Rotational, vibrational, and electronic spectra of molecules; elements of lasers, multiphoton spectroscopy. Offered Every Other Year.
Prerequisite: CHM 7470 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

CHM 7500 Modern Methods in Experimental Chemistry Cr. 3
Survey of modern methods for performing experiments in chemistry, including: laser techniques, high vacuum methods, time-resolved techniques, surface characterization, electronics and optics, and computer interfacing. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.

CHM 7570 Computational Biochemistry and Bioinformatics Cr. 3
Application of computational and molecular modeling software tools to biochemical problems. Offered Intermittently.
Prerequisite: CHM 5400 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

CHM 7600 Structure and Function of Biomolecules Cr. 3
Introduction to the structure and function of macromolecules of biological importance. Emphasis on bioenergetics, nucleic acid and protein structure and chemical reactivities, enzyme catalysis, enzyme kinetics, carbohydrate and lipid structure and function, and membrane structure. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.

CHM 7620 Metabolism: Pathways and Regulation Cr. 3
Major metabolic pathways of carbohydrate, fatty acid, amino acid, and nucleotide synthesis and degradation. Pathways and mechanisms of energy generation. Hormonal and allosteric regulation of enzyme activity. Offered Fall.
Prerequisite: CHM 7600 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

CHM 7635 Tools of Molecular Biology Cr. 3
Principles underlying genetic and biochemical methods; complements work in lab CHM 6610. Offered Yearly.
Prerequisite: CHM 7620 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

CHM 7640 Molecular Biology Cr. 3
Nucleic acid structure and function. Mechanism and control of replication, transcription, and translation. Mutation, genetic recombination, recombinant DNA. Membranes and organelles. Offered Winter.
Prerequisite: CHM 7600 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

CHM 7740 Responsible Conduct of Research Cr. 1
Recognition of and approach to ethical issues that chemistry students may confront during their careers; the tools for dealing with these quandaries; procedures for reporting and resolving such conflicts. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students in the Department of Chemistry.

CHM 7770 Proposals in Chemical Research Cr. 2
This course is writing-intensive and based on hands-on exercises aiming to conceive and articulate novel scientific ideas in an effective way. Strategies will be taught on how to extract information from peer-reviewed papers, how to develop concise and descriptive research aims, and how to defend their ideas in written and oral formats. Topics in this course include hypothesis-driven research, basics of extramural funding, literature search, the meaning of "Intellectual Merit & Broader Impacts", designing experiments, reporting results, tutorials on relevant scientific software, and the criteria for peer-review. The development of personal statements and biosketches will also be covered. Offered Fall.
Prerequisite: CHM 7100 with a minimum grade of B or CHM 7600 with a minimum grade of B or CHM 7010 with a minimum grade of B or CHM 7200 with a minimum grade of B or CHM 7470 with a minimum grade of B
Restriction(s): Enrollment is limited to Graduate level students.

CHM 7990 Directed Study Cr. 1-4
Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 12 Credits

CHM 8090 Advanced Topics in Inorganic Chemistry Cr. 1-3
Topics offered in different semesters: inorganic synthesis and reactions; organometallic chemistry; bioinorganic chemistry; spectroscopy and stereochemistry of inorganic compounds; inorganic reaction mechanisms; photochemistry. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 12 Credits

CHM 8190 Advanced Topics in Analytical Chemistry Cr. 1-3
The following topics offered in different semesters: sample preparation, surface analysis, analytical mechanisms, advanced instrumentation, computer interfacing. Offered Intermittently.
Prerequisite: CHM 7100 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 12 Credits

CHM 8290 Advanced Topics in Organic Chemistry Cr. 1-3
The following topics offered in different semesters: physical-organic chemistry; kinetics of organic reactions; structure-reactivity correlations; reaction mechanisms; molecular orbital theory in organic chemistry; photochemistry; free radical chemistry; polymer chemistry; recent developments in organic chemistry; synthetic strategy; chemistry of natural products including steroids, terpenes, alkaloids, carbohydrates, and proteins. Offered Intermittently.
Prerequisite: CHM 7200 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 12 Credits

CHM 8420 X-Ray Crystallography Cr. 3
Theoretical and practical aspects of modern x-ray crystallography. Training and practice in determination of crystal structure. Offered Intermittently.
Prerequisite: CHM 7010 with a minimum grade of C or CHM 7240 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

CHM 8490 Advanced Topics in Physical Chemistry Cr. 1-3
The following topics offered in different semesters: chemistry of the solid state; electron spin resonance; lasers and nonlinear spectroscopy; molecular dynamics; molecular quantum mechanics; particle and photon scattering: photophysics and photochemistry; radiation and nuclear chemistry; theory of gas phase kinetics. Offered Intermittently.
Prerequisite: CHM 7410 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 12 Credits

CHM 8690 Advanced Topics in Biochemistry Cr. 1-3
Topics offered in different semesters: applications of spectroscopy to biochemical systems; chemical carcinogenesis; DNA repair; enzyme chemistry; experimental methods in molecular biology; hormone biochemistry; mechanisms of oxygen metabolism; membrane chemistry. Offered Intermittently.
Prerequisite: CHM 7410 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 12 Credits

CHM 8700 Research in Chemistry Cr. 1-16
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 40 Credits

CHM 8800 Seminar in Analytical Chemistry Cr. 1
Required of all graduate students in analytical chemistry. Weekly meetings of staff, invited guests, and qualified students to study recent developments. Each seminar member presents papers and enters into the discussion that follows. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 4 Credits

CHM 8810 Seminar in Organic Chemistry Cr. 1
Required of all graduate students in organic chemistry. Weekly meetings of staff, invited guests, and qualified students to study recent developments. Each seminar member presents papers and enters into the discussion that follows. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 4 Credits

CHM 8820 Seminar in Inorganic Chemistry Cr. 1
Required of all graduate students in inorganic chemistry. Weekly meeting of staff, invited guests, and qualified students to study recent developments. Each seminar member presents papers and enters into the discussion that follows. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 4 Credits

CHM 8830 Seminar in Physical Chemistry Cr. 1
Required of all graduate students in physical chemistry. Weekly meetings of staff, invited guests, and qualified students to study recent developments. Each seminar member presents papers and enters into the discussion that follows. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 4 Credits

CHM 8840 Seminar in Biochemistry Cr. 1
Required of all graduate students in biochemistry. Weekly meetings of staff, invited guests, and qualified students to study recent developments. Each seminar member presents papers and participates in discussions. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Chemistry; enrollment limited to students in a Doctor of Philosophy or Master of Science degrees.
Repeatable for 4 Credits

CHM 8850 Frontiers in Chemistry Cr. 1
Fields of fundamental chemistry now under investigation, presented by invited specialists actively engaged in research. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 3 Credits

CHM 8999 Master's Thesis Research and Direction Cr. 1-8
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students with a class of Candidate Masters.
Repeatable for 8 Credits

CHM 9990 Pre-Doctoral Candidacy Research Cr. 1-8
Research in preparation for doctoral dissertation. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 12 Credits

CHM 9991 Doctoral Candidate Status I: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 998.99 Credits

CHM 9992 Doctoral Candidate Status II: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: CHM 9991 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 998.99 Credits

CHM 9993 Doctoral Candidate Status III: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: CHM 9992 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 998.99 Credits

CHM 9994 Doctoral Candidate Status IV: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: CHM 9993 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 998.99 Credits

CHM 9995 Candidate Maintenance Status: Doctoral Dissertation Research and Direction Cr. 0
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $370.26
Repeatable for 998.99 Credits

CLA - CLASSICS

CLA 1010 Classical Civilization Cr. 3-4
Satisfies General Education Requirement: Cultural Inquiry, Philosophy Letters
Survey of the culture and civilization of Ancient Greece and Rome, in particular those aspects that laid the political, social, and cultural framework of the modern world. Offered Every Term.

CLA 1230 Word Origins: English Words from Greek and Latin Cr. 3-4
Vocabulary-building course designed to enlarge English vocabulary and increase understanding and spelling proficiency through a study of Greek and Latin roots of English words; aspects of interpreting and remembering legal, medical, and scientific vocabularies included. Offered Every Term.

CLA 2000 Greek Mythology Cr. 3-4
Satisfies General Education Requirement: Cultural Inquiry, Civ and Societies (CLAS only)
Typical myths related to religion, custom, ethics, philosophy, art, literature. Offered Every Term.

CLA 2200 Introduction to Greek Tragedy Cr. 3-4
Satisfies General Education Requirement: Cultural Inquiry, Philosophy Letters
Dramatic and literary qualities of representative plays of Aeschylus, Sophocles and Euripides. The origin and development of Greek tragedy related to the enduring quality and contemporary relevance of these dramas. Offered Every Term.

CLA 2300 Ancient Comedy Cr. 3
Satisfies General Education Requirement: Cultural Inquiry, Philosophy Letters
Dramatic and literary qualities of representative plays of Aristophanes, Menander, Plautus and Terence. Origins and development of Greek Comedy related to the enduring quality and contemporary relevance of these dramas and their influence on later literature. Offered Intermittently.

CLA 3050 Cleopatra Cr. 3
Cleopatra as a figure of history and of myth, using sources ranging from ancient texts to contemporary websites, literature, history, art and film. Use of methodologies that classicists employ to focus on this single aspect of the ancient world; study of a historical problem that is plagued with biases. Offered Intermittently.

CLA 3060 Medea in African American Literature Cr. 3
Ancient sources about Medea; her presence in work of four African American authors: W.E.B. DuBois, Countee Cullen, Toni Morrison, and Percival Everett. Offered Intermittently.

CLA 3150 Athens and the Ancient Greek World Cr. 3-4
Cultural history of ancient Greece from the time of the first Olympic games (776 BCE) to the reign of Alexander the Great and the advent of the Hellenistic kingdoms (336 BCE); focus on the greatest of the Greek city-states, Athens. Offered Every Other Year.

CLA 3190 Topics on Women in Antiquity Cr. 3
Topics on roles of women and views of gender and sexuality in ancient Greece and Rome, drawn from fields such as literature, art, drama, and law. Offered Intermittently.
Repeatable for 6 Credits

CLA 3300 Coins and Coinage of the Greeks and Romans Cr. 1-3
Origin and uses of coined money in the Greco-Roman world; economic, social, political, cultural impact of coinage on Greek and Roman civilization from the Sixth Century B.C.E. to end of Second Century C.E. Offered Intermittently.
Repeatable for 3 Credits

CLA 3350 Plutarch's Lives of the Noble Greeks and Romans Cr. 3
Structured reading of one of the formative works in the Western canon, which has had lasting influence on biography as a genre and upon individuals such as William Shakespeare, Jean-Jacques Rousseau, Ralph Waldo Emerson, William Wordsworth, George Bernard Shaw, Harry Truman, Robert Lowell, Barbara Chase-Riboud, and many others. Offered Intermittently.

CLA 3530 The World of Early Christianity Cr. 3
A historical survey of the cultural, social, and literary world of early Christianity. Offered Every Other Year.
Equivalent: GKM 3530

CLA 3590 Byzantine Civilization Cr. 3
Satisfies General Education Requirement: Historical Studies, Social Inquiry
Survey of Byzantine culture, religion, society, and literature from late Antiquity to 1453, through secondary and primary sources in translation. Offered Yearly.
Equivalent: GKM 3590

CLA 3700 The Golden Age of Rome Cr. 3-4
Interdisciplinary approach to the most important period of Roman history: the beginning of The Roman Empire under Augustus; history, politics, literature, art. Offered Every Other Year.

CLA 3720 Greek Identity from Antiquity to Modernity Cr. 3
Satisfies General Education Requirement: Cultural Inquiry, Historical Studies
Explores what it meant to be Greek from Archaic Greece to the modern era. Offered Yearly.
Equivalent: GKM 3720

CLA 3800 Survey of Greek Literature Cr. 3-4
Representative sampling of important Greek literary texts in English translation. Offered Every Other Year.

CLA 3825 Survey of Latin Literature Cr. 3-4
Representative sampling of important Latin literary texts in English translation. Offered Every Other Year.

CLA 3999 Further Studies in Mythology Cr. 3
A more in-depth study of mythology with special reference to particular classical myths or theories. Offered Intermittently.
Prerequisites: CLA 2000 with a minimum grade of D-

CLA 4998 Honor's Thesis Cr. 3
Completion of an extended examination of a topic or research question in Classics, under the direction of one or more members of the departmental faculty. Offered Every Term.
Restriction(s): Enrollment is limited to students with a major, minor, or concentration in Classics Honors.

CLA 5050 Cleopatra Cr. 3
Cleopatra as a figure of history and of myth, using sources ranging from ancient texts to contemporary websites, literature, history, art and film. Use of methodologies that classicists employ to focus on this single aspect of the ancient world; study of a historical problem that is plagued with biases. Offered Intermittently.

CLA 5150 Athens and the Ancient Greek World Cr. 3-4
Cultural history of ancient Greece from the time of the first Olympic games (776 BCE) to the reign of Alexander the Great and the advent of the Hellenistic kingdoms (336 BCE); focus on the greatest of the Greek city-states, Athens. Offered Every Other Year.

CLA 5190 Topics on Women in Antiquity Cr. 3
Topics on roles of women and views of gender and sexuality in ancient Greece and Rome, drawn from literature, art, drama, and law. Offered Intermittently.
Repeatable for 6 Credits

CLA 5200 Special Studies Cr. 1-4
In-depth study of some aspect of Greek and Roman civilization. Topics may be drawn from the fields of literature, archaeology, art and history, and will be announced in Schedule of Classes . All readings in English. Offered Intermittently.
Repeatable for 8 Credits

CLA 5300 Methods and Materials in Classical Studies Cr. 3-6
Introduction to various aspects of the material culture of Greek and Roman antiquity and to methods for approaching its study. Offered Intermittently.
Prerequisites: CLA 1010 with a minimum grade of D-
Repeatable for 6 Credits

CLA 5350 Plutarch's Lives of the Noble Greeks and Romans Cr. 3
Structured reading of one of the formative works in the Western canon, which has had lasting influence on biography as a genre and upon individuals such as William Shakespeare, Jean-Jacques Rousseau, Ralph Waldo Emerson, William Wordsworth, George Bernard Shaw, Harry Truman, Robert Lowell, Barbara Chase-Riboud, and many others. Offered Intermittently.

CLA 5530 The World of Early Christianity Cr. 3
A historical survey of the cultural, social, and literary world of early Christianity. Offered Every Other Year.
Equivalent: GKM 5530

CLA 5590 Byzantine Civilization Cr. 3
Survey of Byzantine culture, religion, society, and literature from late Antiquity to 1453, through secondary and primary sources in translation. Offered Yearly.
Equivalent: GKM 5590

CLA 5700 The Golden Age of Rome Cr. 3-4
Interdisciplinary approach to the most important period of Roman history: the beginning of The Roman Empire under Augustus; history, politics, literature, art. Offered Every Other Year.

CLA 5720 Greek Identity from Antiquity to Modernity Cr. 3
Satisfies General Education Requirement: Historical Studies
Explores what it meant to be Greek from Archaic Greece to the modern era. Offered Yearly.
Equivalent: GKM 5720

CLA 5800 Survey of Greek Literature Cr. 3-4
Representative sampling of important Greek literary texts in English translation. Offered Every Other Year.

CLA 5825 Survey of Latin Literature Cr. 3-4
Representative sampling of important Latin literary texts in English translation. Offered Every Other Year.

CLA 5990 Directed Study Cr. 1-4
Directed independent research in depth on a topic or author not treated in the regular classics offerings, culminating in a course paper. Offered Every Term.
Repeatable for 8 Credits

CLA 5993 Writing Intensive Course in Classical Civilization Cr. 0
Satisfies General Education Requirement: Writing Intensive Competency
Disciplined writing assignments under the direction of a faculty member. Must be selected in conjunction with a designated corequisite; see section listing in Schedule of Classes for corequisites available each term. Satisfies the University General Education Writing Intensive Course in the Major requirement. Required for all majors. Grade in CLA 5993 is independent of grade in corequisite course. Offered Every Term.
Prerequisites: AFS 2390 with a minimum grade of C or ENG 2390 with a minimum grade of C or ENG 3010 with a minimum grade of C or ENG 3020 with a minimum grade of C or ENG 3050 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students.

CLA 6260 Further Studies in Mythology Cr. 3
An in-depth study of mythology with special reference to particular classical myths or theories of myth. Offered Intermittently.
Prerequisites: CLA 2000 with a minimum grade of D-
Repeatable for 6 Credits

CLA 7010 Introduction to Literary Theory Cr. 3
Graduate-level introduction to key critical perspectives, theories, problems, and questions that have informed the discussions and analyses of twentieth- and twenty-first-century literary and cultural scholars. Specific theoretical paradigms used to determine the task of textual interpretation, locate the limits of each approach, trace the emergence of subsequent theoretical paradigms, and think about how such theories might or might not be relevant in the study of specific texts. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: FRE 7010, GER 7010, ITA 7010, NE 7010, SLA 7010, SPA 7010

CLS - CLINICAL LABORATORY SCIENCE

CLS 2080 Clinical Laboratory Science Seminar Cr. 1
Introduction to clinical laboratory sciences. Opportunities and responsibilities. Offered Fall, Winter.

CLS 2990 Pre-professional Directed Study Cr. 1-3
Independent study under faculty supervision. Offered Fall, Spring/Summer.
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

CLS 3020 Hematology Lecture and Laboratory Cr. 4
Basic study of blood-forming organs and components of blood; explanation of basic hematological procedures. Offered Yearly.
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.
Course Material Fees: $75

CLS 3040 Immunohematology Lecture and Laboratory Cr. 4
Principles of immunology and theory of procedures employed in the clinical blood bank. Survey of the organization and operation of a blood bank. Offered Yearly.
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.
Course Material Fees: $130

CLS 3080 Instrumentation Lecture and Laboratory Cr. 4
Introduction to fundamental laws of electronics, the theoretical basis of instrument design, and quality control in laboratory testing. Application of instrumental methods, including spectrophometric, flurometric, electroanalytical, and chromatographic methods to the clinical laboratory. Offered Fall.
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.
Course Material Fees: $85

CLS 3090 Introduction to Professional Practice Cr. 1
Introduction to pre-professional and professional practice, education methodologies for the lab, intro to research in the field, ethics, and critical thinking in the lab. Offered Fall.
Restriction(s): Enrollment limited to students with a class of Junior or Senior; enrollment limited to students in the Pharmacy and Health Sciences; enrollment limited to students in the BS in Clinical Lab Sciences or Bachelor of Health Science programs.

CLS 3100 Basic Techniques: Microscopy Cr. 3
Specimen collection, preparation, and examination of urine and other body fluids such as spinal fluid, semen, and synovial fluid. Offered Yearly.
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.
Course Material Fees: $85

CLS 3280 Clinical Chemistry Lecture and Laboratory Cr. 4
Methodologies and interpretations of results of clinical chemistry diagnostic tests. Offered Yearly.
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.
Course Material Fees: $85

CLS 3330 Medical Terminology Cr. 1
Study of medical terms in a body system approach. Review of anatomy and physiology. Offered Every Term.

CLS 4000 Clinical Hematology Cr. 5
Theory and principles for evaluation of the quantity, morphology and function of cellular components of blood. Offered Every Term.
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.
Course Material Fees: $14

CLS 4010 Clinical Chemistry Cr. 3
Biochemical analysis of blood and other body fluids to determine values of various chemical substances, using routine methods and automation. Offered Every Term.
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.
Course Material Fees: $14

CLS 4020 Clinical Blood Bank Cr. 2
Theory and principles involving antigen-antibody reactions of blood. Obtaining, storage and preparation of whole blood or blood components for infusion. Offered Every Term.
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.
Course Material Fees: $14

CLS 4030 Clinical Microbiology Cr. 5-6
Obtaining, culturing, identification and antibiotic sensitivity of microorganisms causing infection or infestation. Offered Every Term.
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.
Course Material Fees: $14

CLS 4040 Laboratory Operations Cr. 3
Laboratory management issues and problems, with emphasis on the hospital setting. Includes management theory, interpersonal and technical skills, legal and regulatory issues, computers in laboratories, quality assessment and improvement, and healthcare marketing. Offered Yearly.
Restriction(s): Enrollment limited to students with a class of Junior or Senior; enrollment limited to students in the Pharmacy and Health Sciences; enrollment limited to students in the BS in Clinical Lab Sciences or Bachelor of Health Science programs.

CLS 4050 Clinical Immunology Cr. 1
Study of diseases related to diagnostic immunology. Offered Every Term.
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.
Course Material Fees: $14

CLS 4210 Hemostasis Lecture and Laboratory Cr. 2
Lecture and laboratory course covering principles of hemostasis and assessment of hemostasis status. Performance and interpretation of diagnostic tests, along with problem solving and correlation of laboratory findings with disease states. Offered Fall.
Course Material Fees: $75

CLS 4230 Hematology II Cr. 3
Continuation of Hematology I. Introduction to hematologic neoplasms. Application of laboratory methods for diagnosis and treatment. Offered Yearly.
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.
Course Material Fees: $85

CLS 4990 Professional Directed Study Cr. 1-8
Independent study under faculty supervision. Offered Every Term.
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

CLS 5020 Pathophysiology for the Clinical Laboratory Cr. 3
Advanced pathophysiologic concepts including etiology, pathogenesis, and clinical manifestations, of commonly encountered altered health states in the adult human. Offered Fall.
Restriction(s): Enrollment limited to students in a BS in Clinical Lab Science or Bachelor of Health Science degrees.

CLS 5070 Clinical Pathology Correlation Cr. 2
Correlation of laboratory data and clinical history through the analysis of case studies. Offered Every Term.
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

CLS 5500 Immunology and Serology Cr. 3
Lectures and studies; applications of immunology and serology in a lab setting, including relevance to human medicine. Offered Yearly.
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.
Course Material Fees: $140

CLS 5510 Diagnostic Microbiology I Cr. 4
Lectures and laboratory course in diagnostic microbiology, with a focus on the fundamentals of clinical bacteriology, and human infectious diseases. Offered Winter.
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences; enrollment limited to students in the BS in Clinical Lab Sciences or Bachelor of Health Science programs.
Course Material Fees: $140

CLS 5520 Diagnostic Microbiology II Cr. 4
Lecture and laboratory course in diagnostic microbiology with a focus on clinical virology, mycology, and parasitology. Offered Fall.
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences; enrollment limited to students in the BS in Clinical Lab Sciences or Bachelor of Health Science programs.
Course Material Fees: $140

CLS 5530 Microbiology Simulation Laboratory Cr. 3
Application of previously acquired theory and techniques in a simulated clinical microbiology laboratory, with emphasis on work organization, correlation of results, management, decision-making, and quality assurance. Offered Fall, Spring/Summer.
Prerequisites: CLS 5510 with a minimum grade of C and CLS 5520 with a minimum grade of C
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences; enrollment limited to students in the BS in Clinical Lab Sciences or Bachelor of Health Science programs.
Course Material Fees: $100

CLS 5550 Molecular Diagnostics Cr. 2
Review of molecular biology applicable to current testing systems. Laboratory techniques to elucidate molecular structure and disease states; DNA hybridization, agarose gel electrophoresis; southern and western blot techniques; DNA sequencing; PCR. Offered Yearly.
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.
Course Material Fees: $140

CLS 5993 Writing Intensive Course in Clinical Laboratory Science Cr. 0
Satisfies General Education Requirement: Writing Intensive Competency
Disciplinary writing assignments under the direction of a faculty member. Course must be elected in conjunction with designated corequisite; see Schedule of Classes for corequisites available each term. Satisfies University General Education Writing Intensive Course in the Major requirement. Required for all majors. Offered Every Term.
Prerequisites: AFS 2390 with a minimum grade of C or ENG 2390 with a minimum grade of C or ENG 3010 with a minimum grade of C or ENG 3020 with a minimum grade of C or ENG 3050 with a minimum grade of C
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

CMT - CONSTRUCTION MANAGEMENT TECHNOLOGY

CMT 3000 Construction Estimating and Bidding Cr. 3
Fundamental cost estimating principles, processes and methods used in residential and commercial construction. Offered Fall.
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the College of Engineering.

CMT 3010 Introduction to Construction Management Cr. 3
Overview of construction industry; processes involved in construction projects from conception to final delivery. Offered Fall.
Prerequisites: CMT 21X0 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the College of Engineering.

CMT 3020 Residential and Commercial Land Development and Design Cr. 3
Role and responsibilities of a developer; financing strategies and new trends in lending; forming an effective partnership. Technical processes: from undeveloped land to surveying, conceptual drawing, site planning process, engineering and design, permits, and construction. Offered Winter.
Prerequisites: CMT 2X20 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the College of Engineering.

CMT 3030 Construction Safety Management Cr. 3
Construction safety and health management as applicable to contractors, owners, and designers. Construction injury and fatality statistics; humanitarian, legal and economic justification for safety; accident causation and control theories; OSHA standards and safe construction procedures. Safety policy, project safety rules, communications network, accident investigation and record keeping, worker orientation and training, and safety program evaluation and audits. Offered Fall.
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the College of Engineering.

CMT 3040 Building Codes Cr. 3
Requirements by regulatory agencies pertaining to the construction industry; current International Building Code and other regulations; emphasis on Michigan applications. Offered Winter.
Prerequisites: CMT 21X0 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the College of Engineering.

CMT 3050 Construction Accounting and Financial Management Cr. 3
Successful management of finances of the construction project and companies. Accounting systems, financial statements, overhead and profits, cash flows for construction projects and companies, project financing, and financial decision making. Offered Fall.
Prerequisites: ECO 2020 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the College of Engineering.

CMT 3060 Planning and Scheduling Cr. 3
Principles and use of Primavera Project Planner scheduling software: project planning, scheduling, control, and analysis. Project scheduling methods and construction activity analysis, including Critical Path Method (CPM) and networking techniques. Offered Winter.
Prerequisites: ET 5870 with a minimum grade of C

CMT 3070 Introduction to Green Construction Cr. 3
Sustainable or green-building design and construction: efficient use of resources to create healthier and more energy-efficient buildings. Motivations for green construction projects, technical aspects of their design, obstacles, future directions. Knowledge and capabilities to project-manage a green building. Offered Fall.
Prerequisites: BIO 1030 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the College of Engineering.

CMT 3080 Advanced Computers in Construction Cr. 3
Advanced applications of MS Excel software in estimating and financial management of construction projects; making effective project presentations using MS PowerPoint. Field applications of computers; use of PDAs and handheld devices in data acquisition and management. Use of REVIT software in Building Information Modeling (BIM). Offered Winter.
Prerequisites: CE 3010 with a minimum grade of C or ET 2140 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the College of Engineering.

CMT 4030 Facilities Management Principles Cr. 3
Aspects of facilities management: buildings and grounds, custodial services, design and construction, operations and maintenance management. Offered Fall.
Prerequisites: CMT 21X0 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the College of Engineering.

CMT 4050 Construction Methods Cr. 3
Overview of construction practices in industry; processes and equipment involved in construction projects from conception to final delivery. Offered Fall.
Prerequisites: CMT 21X0 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the College of Engineering.

CMT 4070 Mechanical and Electrical Systems in Buildings Cr. 3
Principles and applications of basic mechanical and electrical systems; design examples; emerging technology and environmental issues; essential engineering calculations and data. Offered Fall.
Prerequisites: PHY 2130 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the College of Engineering.

CMT 4140 Project Administration Cr. 3
Overview of construction project and contract administration and management. Use of Excel, Expedition, and Prolog software. Offered Winter.
Prerequisites: CMT 2X00 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the College of Engineering.

CMT 4200 Senior Project Cr. 3
Satisfies General Education Requirement: Writing Intensive Competency Capstone project; senior students work in teams; application of skills, knowledge, techniques and concepts. Satisfies the University General Education Writing Intensive Course in the Major requirement. Offered Winter.
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students with a class of Senior; enrollment limited to students in the College of Engineering.

COM - COMMUNICATION

COM 1010 Oral Communication: Basic Speech Cr. 3
Satisfies General Education Requirement: Oral Communication Competency
Beginning course emphasizing fundamentals of speech preparation. Development of poise and confidence in speaking. Offered Every Term.

COM 1500 Survey of Mass Communication Cr. 3
Introductory course in understanding communication theory and effects and the communication industry in the United States. Offered Every Term.

COM 1600 Introduction to Audio-Television-Film Production Cr. 3
Introduction to production techniques and processes; hands-on use of image and sound recording and editing equipment; creation of dramatic and non-fiction studio and location-based projects. Offered Every Term.
Course Material Fees: $90

COM 1610 Fundamentals of New Media Production Cr. 3
Critical introduction to the emerging landscape of producing original digital content for information and communication technology. Students will develop a critical perspective and the skills needed to engage in new media culture. Offered Winter.
Prerequisites: COM 1600 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students.
Course Material Fees: $70

COM 1700 Media Literacy Cr. 3
Satisfies General Education Requirement: Social Inquiry
Explores the goals and methods of various media industries, identify the influence media has on us, understand benefits and potential negative consequences of media, while identifying specific techniques for becoming media literate. Offered Every Term.

COM 2000 Introduction to Communication Studies Cr. 3
Introduction to the discipline of communication studies. Survey of theory, research, and practice. Offered Yearly.

COM 2010 Introduction to Film Cr. 4
Satisfies General Education Requirement: Cultural Inquiry, Visual Performing Arts
Examination of film techniques and basic methods of film analysis. Offered Every Term.
Course Material Fees: $15
Equivalent: ENG 2450

COM 2020 History of Film Cr. 3
Satisfies General Education Requirement: Cultural Inquiry, Visual Performing Arts
Critical study of the motion picture as a modern visual art; screening and analysis of representative fiction films to illustrate historical periods and genres. Offered Every Term.
Course Material Fees: $15

COM 2030 Journalistic Grammar and Style Cr. 3
Grammar use in journalism; Associated Press Style Book. Offered Every Term.

COM 2100 News Reporting Cr. 3
Basic news reporting: gathering the facts and writing them well. Journalism skills course. Offered Every Term.
Prerequisites: COM 1500 with a minimum grade of C and COM 2030 with a minimum grade of C
Course Material Fees: $30

COM 2110 Argumentation and Debate Cr. 3
Satisfies General Education Requirement: Critical Thinking Competency
Logical and legal foundation of the argumentation process; practical experience in analysis, reasoning, case-building, evaluation of evidence, refutation and cross-examination. Offered Every Term.

COM 2160 Campaigns and Social Movements Cr. 3
Satisfies General Education Requirement: Cultural Inquiry, Philosophy Letters
Critical discussion of the social foundations and values underlying human persuasion. Analysis of persuasive strategies and techniques used in contemporary society: political campaigns, social movements, advertising and consumerism in the U.S. Offered Every Term.

COM 2170 Persuasive Speaking Cr. 3
Advanced public speaking; emphasis on persuasive speeches. Application of social psychology to audience analysis, to speech construction and presentation, and to critical analysis of persuasive public discourse. Offered Every Term.
Prerequisites: COM 1010 with a minimum grade of C or Oral Communication P=100/F=000 with a test score minimum of 100

COM 2200 Interpersonal Communication Cr. 3
Introduction to theory and research on interpersonal communication; analysis of everyday communication situations. Offered Yearly.

COM 2210 Media Writing and Storytelling Cr. 3
Application of writing principles to various forms of copy; continuity, commercials, public service announcements, features, documentary, drama. Offered Every Term.
Prerequisites: ENG 1020 with a minimum grade of C or ENG 1050 with a minimum grade of C or College Level Exam Program with a test score minimum of BC-BD or AA Exempt from Gen Ed MACRAO with a test score minimum of 100 or Michigan Transfer Agreement with a test score minimum of 100 or BA Competencies Waiver with a test score minimum of 100

COM 2230 Broadcast News Writing and Digital Editing Cr. 3
Satisfies General Education Requirement: Writing Intensive Competency
Theory and practice in broadcast news-writing, reporting, performing and editing. Writing Intensive course for broadcasting sequence in Journalism major. Offered Fall, Winter.
Prerequisites: COM 1500 with a minimum grade of C
Course Material Fees: $50

COM 2240 Forensics Practicum Cr. 1-2
Training and participation in debate and contest speaking. Offered Every Term.
Repeatable for 6 Credits

COM 2250 South End Workshop Cr. 3
Students work in various editing, reporting, and photographic positions at student newspaper. Offered Every Term.
Prerequisites: COM 2100 with a minimum grade of C

COM 2260 Digital Writing and Research Methods Cr. 3
This course prepares students to participate intelligently and critically in the production and consumption of digital media. The course emphasizes fundamental writing and research skills. Offered Fall.
Restriction(s): Enrollment is limited to Undergraduate level students.

COM 2280 Digital Photojournalism Cr. 3
Theory and practical application of photojournalism. Emphasis on journalistic visual storytelling, use of digital camera equipment, theory of photography, and presentation through social media. Students must provide a 35mm DSLR or mirrorless camera with manual capabilities. Offered Fall, Winter.
Course Material Fees: $50

COM 2290 Fundamentals of New Media Communication Cr. 3
Interdisciplinary introduction to the study of new media by way of an investigation of both theories and applications of emerging forms of communication. Offered Fall.
Restriction(s): Enrollment is limited to Undergraduate level students.

COM 2300 Intercultural Communication Cr. 3
Satisfies General Education Requirement: Diversity Equity Incl Inquiry
The purpose of this course is to engage students in an in-depth exploration of culture within and among different social groups, from a communicative perspective. Discussions and readings will include communication as an element of culture, key concepts and terms that ground our understandings of cross-cultural interactions, a history of the discipline and relevant theories and research in this area. Offered Yearly.
Equivalent: COM 4300

COM 2310 Introduction to Web Design Cr. 3
Introduces students to the current methods and procedures utilized to effectively design and maintain web pages and websites using various CMS (content management system) platforms. Offered Fall.
Course Material Fees: $35

COM 3010 Media Analysis and Criticism Cr. 3
Satisfies General Education Requirement: Writing Intensive Competency
Formal properties and aesthetic considerations in media, especially film, television and interactive media. Offered Every Term.
Prerequisites: COM 1500 with a minimum grade of C
Restriction(s): Enrollment is limited to students in the Department of Communication.
Course Material Fees: $10

COM 3100 Public Affairs Reporting Cr. 3
Advanced news reporting, focusing on governmental stories. Offered Fall, Winter.
Prerequisites: COM 2100 with a minimum grade of C
Course Material Fees: $30

COM 3170 Fundamentals of Public Relations Cr. 3
Historical background of the profession of public relations; communication variables in public relations; emphasis on presentational techniques, publicity preparation and development of special events. Offered Fall, Spring/Summer.
Prerequisites: COM 1010 with a minimum grade of C or COM 2170 with a minimum grade of C or Oral Communication P=100/F=000 with a test score minimum of 100

COM 3210 News Editing Cr. 3
Copy editing, headline writing, AP style, online and print news presentation, preparation for different news platforms. Journalism skills course. Offered Every Term.
Prerequisites: COM 2100 with a minimum grade of C
Course Material Fees: $15

COM 3230 The African-American Film Experience Cr. 4
Historical and contemporary portrayals of African American people in narrative and documentary film. Emphasis on filmic approaches to race relations, cinematic elaboration of racial stereotypes, and legitimation functions of film. Offered Yearly.
Restriction(s): Enrollment is limited to Undergraduate level students.
Equivalent: AFS 3200

COM 3250 Introduction to Organizational Communication Cr. 3
Introduction to major theories and principles used to guide the effective practice of communication within organizations. Offered Fall, Winter.

COM 3300 Business and Professional Presentations Cr. 3
Satisfies General Education Requirement: Writing Intensive Competency
Review and practice of various oral communication forms used in modern organizations. Topics include persuasive speaking, informative speaking, speech writing, multi-media presentations and business and report writing. Offered Every Term.
Prerequisites: COM 1010 with a minimum grade of C and ENG 2100 with a minimum grade of C or ENG 2110 with a minimum grade of C or ENG 2120 with a minimum grade of C or ENG 2210 with a minimum grade of C or ENG 2310 with a minimum grade of C or ENG 2390 with a minimum grade of C or ENG 2420 with a minimum grade of C or ENG 2560 with a minimum grade of C or ENG 2570 with a minimum grade of C or ENG 3010 or ENG 3020 or ENG 3050
Course Material Fees: $10

COM 3380 Editing and Field Production Cr. 3
Theoretical, technical and creative storytelling processes of editing; development of technical competency in skills required for location production (camera, lighting, and sound). Offered Every Term.
Prerequisites: COM 1600 with a minimum grade of C
Restriction(s): Enrollment is limited to students with a major, minor, or concentration in Film, Film Honors, Film Studies, Journalism, Journalism Honors, Media Arts and Studies or Media Arts and Studies Honors.
Course Material Fees: $130

COM 3400 Theories of Communication Cr. 3
Satisfies General Education Requirement: Writing Intensive Competency
Exploration of the role of theory in describing, explaining and predicting human communication behavior in face-to-face and mediated contexts. Offered Every Term.

COM 3990 Directed Study Cr. 1-4
Offered Every Term.
Repeatable for 4 Credits

COM 4041 Rhetoric and the Body Cr. 3
Humanistic analysis, research, and theory in how rhetoric of/about the human body intersects with broader social concerns (e.g., consumerism, gender, disease and health, and race). Offered Every Other Year.

COM 4100 Feature Writing Cr. 3
Satisfies General Education Requirement: Writing Intensive Competency
Advanced news reporting, focusing on feature writing. Offered Fall, Winter.
Prerequisites: COM 2100 with a minimum grade of C
Course Material Fees: $30

COM 4110 Studies of Legal Argument Cr. 3
Uses of legal argument in a variety of fields and contexts. Different methods of studying argument will be examined. Offered Every Other Year.
Restriction(s): Enrollment limited to students with a class of Junior or Senior.

COM 4130 Communication Ethics Cr. 3
Issues of responsible communication in a variety of contexts including mass, organizational, and interpersonal communication. Offered Every Other Year.
Restriction(s): Enrollment limited to students with a class of Junior or Senior.

COM 4140 Popular and Celebrity Culture Cr. 3
Increasing significance of pop and celebrity culture in shaping cultural and political affairs. Modes of production and consumption of pop culture; understanding pop culture and its effects. Offered Yearly.
Restriction(s): Enrollment limited to students with a class of Junior or Senior.

COM 4150 Communication and Conflict Cr. 3
Examination of the dynamics and processes of conflict across contexts with a focus on communicative theories and practices. Focus on developing and applying assessment and management knowledge and skills to real-world situations. Offered Every Other Year.
Restriction(s): Enrollment limited to students with a class of Junior or Senior.

COM 4170 Public Relations Writing Cr. 3
Satisfies General Education Requirement: Writing Intensive Competency
Writing for public relations purposes: backgrounders, fact sheets, press releases; brochures and newsletters. Offered Fall, Winter.
Prerequisites: COM 2030 with a minimum grade of C and COM 3170 with a minimum grade of C

COM 4190 Rhetorical Criticism Cr. 3
An introduction to various methods of rhetorical criticism through analysis of texts and artifacts in terms of persuasion and adaptation to audiences. Offered Fall.
Prerequisites: COM 2000 with a minimum grade of C or COM 3400 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students.

COM 4200 Nonverbal Communication Cr. 3
Channels and functions of nonverbal communication; contexts include: gender, culture, adult-infant interaction, therapy. Methods of study. Offered Every Other Year.
Restriction(s): Enrollment limited to students with a class of Junior or Senior.

COM 4210 Research Methods in Communication Cr. 3
Quantitative and qualitative research methods designed to advance knowledge about human communication across applied settings and diverse contexts. Offered Every Term.
Prerequisites: COM 1500 with a minimum grade of C or COM 2000 with a minimum grade of C
Repeatable for 9 Credits

COM 4240 African Americans in Television Cr. 4
Historical overview of African Americans in radio and television with emphasis on three areas of study: news and documentary; entertainment and advertising; and ownership, employment and access. Offered Yearly.
Equivalent: AFS 4240

COM 4250 Reporting Race, Gender, and Culture Cr. 3
Issues of gender, culture and race in media coverage with emphasis on neutral writing and some content analysis. Preparation for students to report on this content with sensitivity and accuracy. Offered Fall, Winter.
Prerequisites: COM 2100 with a minimum grade of C

COM 4270 Group Communication Cr. 3
Theory, research, and practice in group processes and problem-solving in small groups within professional contexts. Offered Every Other Year.
Restriction(s): Enrollment limited to students with a class of Junior or Senior.

COM 4300 Intercultural Communication Cr. 3
Satisfies General Education Requirement: Diversity Equity Incl Inquiry, Global Learning Inquiry
Culture-general instruction in intercultural communication skills and theory. Offered Yearly.
Prerequisites: COM 2000 with a minimum grade of C or COM 3400 with a minimum grade of C
Equivalent: COM 2300

COM 4310 Audio Production Cr. 3
Theory and practice in sound production techniques and experimentation with creative audio production. Offered Every Term.
Prerequisites: COM 1600 with a minimum grade of C and COM 2210 with a minimum grade of C or COM 2230 with a minimum grade of C
Restriction(s): Enrollment is limited to students in the Department of Communication.
Course Material Fees: $90

COM 4410 Television Production Cr. 4
Theory and practical application of techniques used in television production; use of graphic materials, design and staging concepts, lighting techniques and studio operation; the role of the television producer-director. Offered Every Term.
Prerequisites: COM 1600 with a minimum grade of C and COM 2210 with a minimum grade of C or COM 2230 with a minimum grade of C
Restriction(s): Enrollment is limited to students in the Department of Communication.
Course Material Fees: $90

COM 4500 Leadership Communication Cr. 3
Theory and application of leadership processes in for-profit and nonprofit organizations. Offered Every Other Year.
Restriction(s): Enrollment limited to students with a class of Junior or Senior.

COM 4560 Telecommunications Policy: A Political Economy Approach Cr. 3
Satisfies General Education Requirement: Writing Intensive Competency
Introduction to both the process of developing telecommunications policies and the impact of these policies with particular reference to the United States. Offered Winter.
Prerequisites: COM 1500 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students.

COM 4680 WAYN Radio Cr. 2
Participation in WAYN on-line radio. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Undergraduate level students.

COM 4990 Directed Study Cr. 1-3
Supervised individual research. Offered Every Term.
Prerequisite: COM 2100 with a minimum grade of C
Repeatable for 4 Credits

COM 4996 Senior Honors Thesis Cr. 3
Overview of theory and research in communication; closely supervised research project that results in a paper of approximately twenty pages. Offered Yearly.
Restriction(s): Enrollment limited to students with a class of Senior.

COM 4997 Senior Assessment Essay in Film Studies Cr. 1
Preparation of formal paper demonstrating knowledge of methods of film analysis, film history, and film theory. Offered Every Term.
Restriction(s): Enrollment limited to students with a class of Senior; enrollment is limited to students with a major in Interdisciplinary Film Studies.

COM 5010 History of Communication Technologies Cr. 3
Traces the historical development of communication technologies, industry players and government policies, and assesses impact of the technologies in their historical context. Offered Yearly.
Prerequisites: COM 1500 with a minimum grade of C
Restriction(s): Enrollment is limited to students with a major in Communication Studies, Communication, Film, Film Honors, Journalism, Journalism Honors, Media Arts and Studies, Media Arts and Studies Honors, Public Relations, Public Relations Honors or Radio and Television.

COM 5020 Studies in Film History Cr. 3
Analysis of the development of a specific film genre, a director, or other historical aspect of the motion picture. Topics to be announced in Schedule of Classes. Offered Yearly.
Prerequisite: COM 2010 with a minimum grade of C or ENG 2450 with a minimum grade of C
Restriction(s): Enrollment is limited to students with a major in Communication Studies, Communication, Film, Film Honors, Journalism, Journalism Honors, Media Arts and Studies, Media Arts and Studies Honors, Public Relations, Public Relations Honors or Radio and Television.
Course Material Fees: $20
Repeatable for 12 Credits

COM 5050 Special Topics Cr. 3
Selected topics in communication to be announced in the Schedule of Classes. No more than six credits may be elected in this special topics course in any graduate degree program Offered Intermittently.
Repeatable for 9 Credits

COM 5060 Documentary and Non-Fiction Film and Television Cr. 4
Study of the non-fiction film made for a social, cultural, or political purpose; screening and analysis of selected films. Offered Yearly.
Prerequisites: COM 2010 with a minimum grade of C or COM 2450 with a minimum grade of C
Restriction(s): Enrollment is limited to students in the Department of Communication.
Course Material Fees: $20

COM 5070 Culture, Communication, and Media Cr. 3
The purpose of this course is to engage students in an in-depth exploration of culture, communication, and media technologies and practices in everyday life. In essence, we will study how understandings of culture shape the world around us, even as it is shaped and mediated by everyday communication, often taken for granted. The course challenges students to rethink everyday representations of culture and social groups, unpack how power relations permeate cultural contexts, and identify alternative frames and openings through emerging media technologies. Offered Every Other Fall.
Restriction(s): Enrollment limited to students with a class of Senior.

COM 5080 History and Law of American Journalism Cr. 3
History of journalism and the structure of the industry in America, including all media; emphasis on development of law relating to communication and changing understanding of the First Amendment. Offered Fall, Winter.

COM 5120 Public Address Cr. 3
Landmark moments of public address. What constitutes public address; relevance of public address studies. Offered Every Other Year.
Restriction(s): Enrollment limited to students with a class of Junior or Senior.

COM 5130 Communication and Social Marketing Cr. 3
Principles of social marketing; student-driven group project. Offered Fall, Spring/Summer.
Prerequisites: COM 4210

COM 5140 Public Relations and Social Media Cr. 3
Examines social media strategies and how they can be constructed, implemented and evaluated in the context of public relations planning. Offered for undergraduate credit only. Offered Winter.
Prerequisites: COM 3170 with a minimum grade of C and COM 4210 with a minimum grade of C

COM 5160 Public Relations Campaigns and Issues Management Cr. 3
Capstone course for public relations majors. Management functions of public campaigns: developing objectives, strategic planning, issues management, budgeting. Blends theoretical concepts with their professional and practical applications; emphasis on public relations planning and evaluation. Offered for undergraduate credit only. Offered Winter.
Prerequisites: COM 3170 with a minimum grade of D- and COM 4170 with a minimum grade of D-
Restriction(s): Enrollment is limited to Undergraduate level students.

COM 5190 Senior Seminar in Communication Cr. 3
Advanced study of theory and research in communication studies. Topics to be announced in schedule of classes. Offered Winter.
Prerequisite: COM 2000 with a minimum grade of C or COM 3400 with a minimum grade of C
Restriction(s): Enrollment limited to students with a class of Senior; enrollment is limited to students in the Department of Communication.
Repeatable for 6 Credits

COM 5200 Special Topics in Advanced Reporting Cr. 3
Special areas of interest, such as sports writing, business writing, columns and editorials. Offered Yearly.
Prerequisites: COM 2100 with a minimum grade of C-
Repeatable for 9 Credits

COM 5250 Professional Issues in News Media Management Cr. 3
Capstone course for journalism majors; must elect in last 21 credits before graduation. Ethics and management structure and practices of media organizations. Individual research projects. Offered Fall, Winter.
Prerequisite: COM 2230 with a minimum grade of C or COM 4100 with a minimum grade of C

COM 5270 Screenwriting Cr. 4
Satisfies General Education Requirement: Writing Intensive Competency
Principles and techniques of writing for motion pictures. Analysis and study of professionally written scripts. Exercises in writing dramatic and non-fiction screenplays. This course fulfills the Writing Intensive Requirement for the Film major. Offered Yearly.
Prerequisite: COM 2210 with a minimum grade of C
Restriction(s): Enrollment is limited to students in the Department of Communication.
Course Material Fees: $10
Repeatable for 8 Credits

COM 5300 Layout and Design Cr. 3
Practical skills course in publishing newsletters, magazines, newspapers and books; emphasis on new computer technology, desktop publishing; business aspects of publishing, including printing, promotion and marketing; skills in use of personal computer for publishing. Offered Intermittently.
Course Material Fees: $30

COM 5310 Investigative Reporting Cr. 3
Advanced reporting techniques involving use of Freedom of Information Act and computer-assisted data base searches; accessing public records. Offered Intermittently.
Prerequisite: COM 4410 with a minimum grade of C or COM 5381 with a minimum grade of C

COM 5320 Health Communication Cr. 3
Communication demands of health care and health promotion; current communication issues and problems in modern health care systems; identification of communication strategies for health care consumers and providers. Offered for undergraduate credit only. Offered Every Other Year.
Prerequisites: COM 2000 with a minimum grade of C or COM 3400 with a minimum grade of C

COM 5330 Rhetoric of Visual Culture Cr. 3
Influence that vision and visual texts have in our culture. Critical examination of such texts, including photography, museums, monuments, the fashion industry, tattoos and body marking. Offered for undergraduate credit only. Offered Every Other Year.
Prerequisites: COM 2000 with a minimum grade of C or COM 3400 with a minimum grade of C

COM 5350 Media Arts Production Cr. 3
Key components of production for electronic media (field, audio, and television production). Production techniques, aesthetic understanding, directing skills. No credit after COM 5380 or COM 5400. Offered for graduate credit only. Offered Fall.
Course Material Fees: $100

COM 5360 Gender and Communication Cr. 3
Analysis of gender communication issues within interpersonal, group, organizational, intercultural, public, and mass mediated contexts. Offered for undergraduate credit only. Offered Every Other Year.
Prerequisites: COM 2000 with a minimum grade of D-

COM 5380 Video Field Production and Editing Cr. 3
Theory and practical application of video location production and post-production techniques. Digital non-linear editing and post-production software as used in creative development of original content. Offered Winter.
Prerequisites: May be taken concurrently: COM 1600 with a minimum grade of C or COM 5350 with a minimum grade of C and May be taken concurrently: COM 2210 with a minimum grade of C
Restriction(s): Enrollment is limited to students in the Department of Communication.
Course Material Fees: $100

COM 5381 TV News Reporting and Digital Editing Cr. 3
Theory and practical application of aesthetics and journalistic values of TV news and feature storytelling. Emphasis on planning, location video and sound protection, editing, interviewing, writing skills, on-camera presentation. Offered Fall, Winter.
Prerequisite: COM 2230 with a minimum grade of C
Restriction(s): Enrollment is limited to students with a major in Journalism, Journalism Honors, Media Arts and Studies or Media Arts and Studies Honors.
Course Material Fees: $125

COM 5384 Topics in Production Design and Theory Cr. 3
Theory and practical application in the aesthetic and technical considerations of production design. Topics may include: cinematography/lighting, sound design/mixing, experimental film/video, performance production, documentary preproduction, film/video graphic design. Offered Spring/Summer.
Prerequisite: COM 5380 with a minimum grade of C or COM 4310 with a minimum grade of C or COM 5350 with a minimum grade of C
Course Material Fees: $100
Repeatable for 6 Credits

COM 5390 Digital Animation Cr. 3
Introduction to animation techniques, 2D to 2-1/2D to 3D; includes use of Adobe products such as After Effects. Discussion of alpha channels, masks, rotoscoping, layering, keyframe and behavioral-based animation. Offered Winter.
Prerequisites: COM 1600 with a minimum grade of C or COM 5350 with a minimum grade of C

COM 5400 Techniques of Film and Video Production Cr. 4
Capstone course option for majors in Media Arts and Studies; should be taken in last 21 credits of program. Experience with the preparation, shooting and editing of video projects in film-style production. Offered Every Term.
Prerequisite: COM 3380 with a minimum grade of D- or COM 5380 with a minimum grade of C
Restriction(s): Enrollment is limited to students in the Department of Communication.
Course Material Fees: $150

COM 5410 Producer's Workshop Cr. 3
Examination of the business, managerial, and creative considerations and process of producing media programming from conception through distribution. Offered Yearly.
Prerequisites: COM 3380 with a minimum grade of C or COM 3390 with a minimum grade of C or COM 5380 with a minimum grade of C or COM 5381 with a minimum grade of C or AIN 3220 with a minimum grade of C
Restriction(s): Enrollment is limited to students with a major in Communication Studies, Communication, Film, Film Honors, Journalism, Journalism Honors, Media Arts and Studies, Media Arts and Studies Honors, Public Relations, Public Relations Honors or Radio and Television.
Course Material Fees: $35

COM 5420 Director's Workshop Cr. 3
Organization and execution of the film and video director's tasks through production of a major creative project. Offered Yearly.
Prerequisite: COM 5400 with a minimum grade of C
Course Material Fees: $125
Repeatable for 6 Credits

COM 5440 Film, Cinematography and Lighting Cr. 4
An immersion into the cinematic practices and applied theory of film and digital cinema including the art and technology of cinematography, lighting design, and non-linear post-production. Students will apply an understanding of exposure and color temperature control, workflow management, NLE systems and color grading to the creation of short cinematic works designed for their portfolios and for exhibition. Offered Every Other Year.
Prerequisite: COM 5400 with a minimum grade of C
Restriction(s): Enrollment is limited to students with a major in Communication Studies, Communication, Film, Film Honors, Journalism, Journalism Honors, Media Arts and Studies, Media Arts and Studies Honors, Public Relations, Public Relations Honors or Radio and Television.
Course Material Fees: $125

COM 5460 Magazine Writing Cr. 3
Advanced feature writing: preparation of magazine features. Students focus on limited number of in-depth articles. Research, structure and writing techniques to produce publishable magazine-length articles. Offered Yearly.
Prerequisite: COM 4100 with a minimum grade of C

COM 5500 Journalism and New Media Cr. 3
Theory and practical application of publishing journalistic works via new media. Emphasis on best practices and techniques of using social media for news coverage. Offered Fall, Winter.
Prerequisite: COM 2100 with a minimum grade of C
Course Material Fees: $30

COM 5510 Societal Effects of New Technologies Cr. 3
Capstone course; must elect in last 21 credits prior to graduation. Discusses the societal impact of traditional mass media and the evolving interactive technologies of computers and mobile networks as well as emerging technologies such as robotics. Offered Yearly.
Prerequisite: COM 1500 with a minimum grade of C
Restriction(s): Enrollment is limited to students with a major in Communication, Journalism, Journalism Honors, Media Arts and Studies, Media Arts and Studies Honors or Radio and Television.

COM 5520 International Communications Cr. 3
Examination of the complex issues pertaining to international telecommunication, broadcasting and satellite systems within the broader political, economic and sociocultural contexts of globalization. Offered Winter.

COM 5540 Film Criticism and Theory Cr. 3
Introduction to the major classical and contemporary theoretical and critical approaches to the study of film and screen arts, inclusive of Third Cinema theory, in a globalized, multi-screen media environment. Offered Fall.
Prerequisites: 2 of COM 2020, COM 3010, COM 3230, AFS 3200, COM 3400

COM 5600 Strategic Communication in Nonprofit and the Arts Organizations Cr. 3
An introduction to strategic communication theory and practice as it applies to non-profit organizations. Includes working with arts organizations to determine their public relations needs and developing a strategic communication campaign that addresses those objectives. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students.

COM 5610 Advanced TV Production Cr. 3
Students work on producing live, recorded TV programs and work on a professional-style TV production crew. Positions include technical director, teleprompter operator, producers, audio, lighting, staging/set construction personnel, camera operators, editors. Offered Fall, Winter.
Prerequisite: COM 4410 with a minimum grade of C or COM 5381 with a minimum grade of C
Course Material Fees: $135
Repeatable for 6 Credits

COM 5900 Senior Project in Communication Studies Cr. 3
Combination of lectures and workshops to assist students in carrying out a service learning or individual research project. Offered for undergraduate credit only. Offered Winter.
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment is limited to students with a major in Communication Studies or Communication Studies Honors; enrollment limited to students in a Bachelor of Arts degree.

COM 5993 Writing Intensive Course Cr. 0
Satisfies General Education Requirement: Writing Intensive Competency
Disciplinary writing assignments under the direction of a faculty member. Must be selected in conjunction with a designated corequisite; see section listing in Schedule of Classes for corequisites available each term. Satisfies the University General Education Writing Intensive Course in the Major requirement. No degree credit. Required for all Film Studies majors. Offered Every Term.
Prerequisites: AFS 2390 with a minimum grade of C or ENG 2390 with a minimum grade of C or ENG 3010 with a minimum grade of C or ENG 3020 with a minimum grade of C or ENG 3050 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students.

COM 6050 New Media Practices Cr. 3
Principles and practices of new media and interactive communication. Integrative applications include social networking, wikis, blogs, podcasting, websites and file sharing. Offered Fall.

COM 6060 Teaching Communication at the Secondary Level Cr. 3
Philosophy, pedagogical issues, and methods for teaching speech in secondary schools. Offered Every Other Year.

COM 6070 Directing Forensics Cr. 3
Philosophy and methods of directing high school and college forensics programs; techniques of coaching for debate, oratory, extempore speaking and other reading and speaking contests. Offered Every Other Year.

COM 6090 Digital Screen Media Cr. 3
Foundational techniques of creating transmedia content. Students explore basic interactivity, and gain experience designing and implementing sites for multimedia platforms. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $85

COM 6100 Speech Writing Cr. 3
Preparation and presentation of speech manuscripts. Emphasis on style of writing, use of supporting materials and factors of interest. Special problems of ghost-writing considered. Offered Every Other Year.

COM 6140 Public Relations Theory Cr. 3
This course provides a foundational grounding in public relations theories and examines them in different communication contexts, including mediated, crisis, and international. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.

COM 6180 Principles of Health Communication Cr. 3
Graduate survey of theory, research and practice in communication; emphasis on collaborative patient-provider interactions and health campaigns. Offered for graduate credit only. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.

COM 6190 Internship Cr. 1-3
On-the-job observations and work experience in business, service, social, governmental, and industrial organizations. Emphasis on journalism, public relations, and organizational communication. Offered Every Term.
Repeatable for 6 Credits

COM 6220 Dispute Resolution and Communication Technology Cr. 3
Conflict in online environments; development of Online Dispute Resolution (ODR). Hands-on work with state-of-the-art ODR technologies via several simulations. Offered Every Other Year.

COM 6250 Organizational Communication Cr. 3
Theoretical review of the structure process and function of communication within and between organizations. Analysis of current and emerging issues in the theory and research of organizational communication. Offered Fall.

COM 6270 New Media Theory Cr. 3
Analysis of new media and interactive communication processes. Emphasis on critical theory and cultural studies in relation to interpersonal, group and organizational contexts. Research projects. Offered Yearly.

COM 6280 Reporting on Diversity Cr. 3
Recognition and understanding of differences in culture, ethnicity, gender, and alternative lifestyles; sensitivities in writing and reporting; for students intending careers in the news media. Offered for graduate credit only. Offered Fall, Winter.

COM 6310 Allesee Lectures in Media Cr. 1
Through public lectures, screenings and discussion sessions, this course provides critical and analytical approaches to the study of work by leading artists, professionals and/or scholars in the fields of film, media arts, or broadcast journalism. Offered Yearly.
Restriction(s): Enrollment limited to students with a class of Unranked Grad, Junior or Senior; enrollment limited to students in the Fine, Performing & Comm. Arts.
Repeatable for 3 Credits

COM 6350 Communication, Culture, and Conflict Cr. 3
Overview of communication theory and practice as it relates to issues of culture, conflict and dispute resolution. Offered Fall.

COM 6390 Documentary Storytelling I Cr. 3
Research practices, production techniques and ethical considerations vital to documentary storytelling; camera, sound recording and digital workflow techniques employed in small-crew documentary production; interview and narrative construction techniques. Emphasis on the development of research, conceptualization, visualization, and preproduction skills required for documentary filmmaking. For graduate students, this is the first of a two-semester sequence in documentary filmmaking. Graduate students should plan to register for COM 7390 upon successful completion of this course. Offered Winter.
Prerequisites: May be taken concurrently: COM 5060 with a minimum grade of C and COM 3380 with a minimum grade of B+ or COM 5380 with a minimum grade of B+ or COM 5381 with a minimum grade of B+ or COM 6090 with a minimum grade of B+
Course Material Fees: $125

COM 6410 Allesee Master Class Cr. 1-3
The Allesee Master Class provides students the opportunity to work with leading artists, professionals, and/or scholars in the fields of film, media arts, or broadcast journalism develop and refine professional and creative skills in a production environment. Offered Yearly.
Repeatable for 6 Credits

COM 6530 Audience Measurement and Survey Techniques Cr. 3
Theory and application of quantitative and qualitative research techniques in surveying audiences for electronic media. Offered for graduate credit only. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.

COM 6680 Directed Projects in Film and Media Cr. 1-3
Advanced individual projects. Offered Every Term.
Prerequisite: COM 5400 with a minimum grade of C
Repeatable for 3 Credits

COM 7000 Introduction to MA Studies in Communication Cr. 3
Fundamentals of scholarly research and writing at the graduate level. Offered Fall, Spring/Summer.
Restriction(s): Enrollment is limited to Graduate level students.

COM 7010 Special Topics Cr. 3
Selected topics in communication to be announced in the Schedule of Classes. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 9 Credits

COM 7011 Intro: Professional Practices in Media Cr. 3
Bridge course for new MA students who do not have a professional background or undergraduate degree in journalism or public relations. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.

COM 7040 Language and Power Cr. 3
Ways in which language is used as a device of oppression and liberation. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.

COM 7110 Theory of Argument Cr. 3
Advanced studies in argumentation, including the structure of reasoning, the organization of arguments, strategies of argument, and the nature of proof. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.

COM 7120 Contemporary Political Campaigns Cr. 3
Study of methods for analyzing political campaigns; a critical evaluation of presidential campaigns from 1960 to the present. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 6 Credits

COM 7140 Public Relations Campaigns and Issues Management Cr. 3
Management functions of public relations campaigns: developing objectives, strategic planning, issues management, budgeting. Blends theoretical concepts with their professional and practical applications; emphasis on prominent critical rhetorical approaches to public relations planning and evaluations. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students.

COM 7150 Micro-Level Organizational Communication Cr. 3
Communicative processes and behaviors that affect individuals in organizations; quality and quantity of workplace communication at dyadic and group levels. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.

COM 7155 Theories of Interpersonal Communication Cr. 3
Survey of theory and research on interpersonal interaction, with special emphasis on social perception, self-presentation, and the formation of relationships in interaction. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.

COM 7160 Crisis Communication Cr. 3
Theoretical and case-study approach to communicative aspects of organizational crisis management. Topics include post-crisis response, crisis sensing, crisis planning. Offered Every Other Year.
Prerequisite: COM 6250 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

COM 7162 Risk Communication: Theoretical and Practical Approaches Cr. 3
Introduces students to the theoretical approaches to risk communication. In addition, students will be introduced to research methods that may be used to conduct evaluation research on the impact of mediated risk communication. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.

COM 7165 Communication and Issue Management Cr. 3
Theoretical and case study approach to management of public policy issues facing organizations. Topics include: public relations, issue monitoring, environmental uncertainty. Offered Every Other Year.
Prerequisite: COM 6250 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

COM 7170 Health and Risk Communication Cr. 3
Theory and research in health and risk communication. Role of communication in hindering and promoting health under situations of health risk such as disasters and other public health emergencies. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students.

COM 7172 Risk Communication: Disasters, Hazards, and the Media Cr. 3
Introduces students to the role of mass media in communicating about disasters and hazards, public opinion and cultural understanding of risk as expressed through popular culture, individual and public policy response to risk messages, and some introduction to the ethical issues embedded in the concept of risk. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.

COM 7200 Rhetoric of Visual Culture Cr. 3
Critical analysis of symbolic and performative dimensions of visual culture. Theoretical and material force of photography, architecture, landscape, museums, public memorials, and others. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.

COM 7210 New Media and Strategic Communication Cr. 3
Fundamental theories and practical applications of social media, and its strategic use in public relations and professional communication. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.

COM 7220 Professional Issues in Applied Communication Cr. 3
Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students.

COM 7240 Communication Consulting and Training Cr. 3
Theoretical and pragmatic approaches to the design and implementation of strategic communication changes in organizations. Topics: role of change, change strategies, behavioral and structural change, design of communication audits, communication training methods, and relations with client organizations. Offered Every Other Year.
Prerequisite: COM 6250 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

COM 7250 Rhetorical Criticism Cr. 3
Principles of criticism as applied to public address; analysis of standards and methods of evaluation; readings in modern criticism of public address. Research project. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.

COM 7260 Quantitative Research Methods in Communication Cr. 3
Methods of data collection and analysis in communication research, approaches to measurement, research design, and other quantitative methods of communication research. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.

COM 7270 Advanced Screenwriting Cr. 4
Research and writing for creation of full-length dramatic or documentary film and television scripts. Offered Yearly.
Prerequisite: COM 5270 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $10

COM 7290 Contemporary Rhetorical Theory Cr. 3
Exploratory analysis of a broad spectrum of recent works relevant to the art of discourse. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.

COM 7300 Feminist Rhetorical Criticism Cr. 3
Investigation of philosophical and practical issues inherent in feminist approaches to rhetorical theory and criticism. Offered Every Other Year.
Prerequisite: COM 7250 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

COM 7340 Interviewing Cr. 3
Theory and research on interviewing across a range of contexts. Topics include: constructing questions and protocols, listening, role, self-presentation, social understanding. Contexts may include screening, counseling, legal, journalism and research. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.

COM 7360 Qualitative Research Methods in Communication Cr. 3
Theoretical bases of qualitative research in communication and the development of skills in conceptualizing/designing qualitative research projects in communication, gathering data, analyzing data (using online software), and writing qualitative research. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.

COM 7365 Ethnographic Methods for Communication Research Cr. 3
Design, implementation and evaluation of ethnographic and participant/observation research studies in communication. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.

COM 7380 Advanced Media Editing Cr. 3
Principles of video and film editing; exercises and assignments covering pace, meaning, special effects; styles of editing related to genres; non-linear editing software programs. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $30

COM 7390 Documentary Storytelling II Cr. 3
Second-semester of a two-semester graduate sequence on documentary storytelling. Advanced principles of writing, producing, directing and editing the documentary. Special emphasis on advanced location production and post-production visual storytelling techniques including character development, continuity, and narrative story structure. Graduate students should plan to enroll in this course in the regular semester immediately following their completion of COM 6390. Offered Fall.
Prerequisite: COM 6390 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $125

COM 7410 Communication Theory Cr. 3
Systematic analysis of major twentieth century theories of communication, with a discussion of their historical and philosophical foundations. Discussion and critical review of recent developments in communication theory. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.

COM 7420 Seminar in Directing Cr. 3
Provides the advanced media production student the opportunity to devote an entire semester to producing, directing, and editing a significant cinematic or interactive work. It focuses on creative approaches to cinematic visualization, character development, dramatic structure, scene construction, sound design and the direction of performances (actors, talent and production teams) in the crafting of compelling motion picture stories. Students work to establish their artistic voices as they create significant films or interactive digital media projects for professional exhibition and distribution. A completed script or detailed treatment is required prior to registration. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $125
Repeatable for 6 Credits

COM 7500 Seminar in Mass Media Cr. 3
Advanced topics in mass communication theory and research. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 9 Credits

COM 7510 Seminar in Research Methods Cr. 3
Advanced and focused methods of research in communication, journalism and media studies. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 9 Credits

COM 7520 Theories of Media Effects Cr. 3
Survey of research and theory in mass communication effects on individuals and social systems. Processes of mass media influence; role of mass communications in society. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 998.99 Credits

COM 7530 Critical Mass Communication Theory Cr. 3
Foundational readings and concepts; theoretical perspectives of critical theory and cultural studies. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.

COM 7580 Content Analysis Cr. 3
Theory and practice in quantitative techniques for analyzing texts. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.

COM 7610 Feminist Media Theory and Criticism Cr. 3
History of feminist film and television theory and criticism since the 1970s; methods for textual analysis, the theories that inform these methods, and media scholarship other than textual analysis. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.

COM 7700 Mass Media and Political Communication Cr. 3
Mass media research methods for political communication studied and applied. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.

COM 7810 Seminar in Communication Education Cr. 3
Philosophy and approaches to teaching communication on the college level. Topics include objectives, evaluation, motivation and teaching strategies. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.

COM 7840 Studies in Communication Education Cr. 3
Research in communication education: issues, trends and controversies as reflected in major journals. Offered Intermittently.
Prerequisite: COM 7810 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

COM 7990 Directed Study: MA Cr. 1-4
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 6 Credits

COM 7991 Directed Study: PhD Cr. 1-4
Research in major field for advanced graduate students. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 6 Credits

COM 7999 Master's Essay Direction Cr. 1-3
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.

COM 8000 Introduction to PhD Studies Cr. 3
Introduction to perspectives, approaches and methods of communication research. Required during first term of Ph.D. study in the Communication Department. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.

COM 8170 Seminar in Interpersonal Communication Cr. 3
Various topics in interpersonal communication. Taught on a term-specific basis; see Schedule of Classes for current offerings. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students.

COM 8290 Seminar in Communication Studies Cr. 3
Advanced topics in communication and rhetorical theory. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 9 Credits

COM 8350 Advanced Study in Rhetorical Criticism Cr. 3
Study of important decisions in rhetorical criticism; two critical projects refined throughout the term in context of critical process, perspectives and approaches. Offered Every Other Year.
Prerequisite: COM 7250 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

COM 8999 Master's Thesis Research and Direction Cr. 1-8
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 8 Credits

COM 9990 Pre-Doctoral Candidacy Research Cr. 1-8
Research in preparation for doctoral dissertation. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 12 Credits

COM 9991 Doctoral Candidate Status I: Dissertation Research and Direction Cr. 7.5
Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.

COM 9992 Doctoral Candidate Status II: Dissertation Research and Direction Cr. 7.5
Offered Yearly.
Prerequisite: COM 9991 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

COM 9993 Doctoral Candidate Status III: Dissertation Research and Direction Cr. 7.5
Offered Yearly.
Prerequisite: COM 9992 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

COM 9994 Doctoral Candidate Status IV: Dissertation Research and Direction Cr. 7.5
Offered Yearly.
Prerequisite: COM 9993 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

COM 9995 Candidate Maintenance Status: Doctoral Dissertation Research and Direction Cr. 0
Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $370.26
Repeatable for 0 Credits

CRJ - CRIMINAL JUSTICE

CRJ 1010 Introduction to Criminal Justice Cr. 3
Satisfies General Education Requirement: Social Inquiry
Scientific method and multidisciplinary approach to administration, procedures, and policies of agencies of government charged with enforcing the law, adjudicating crime, and correcting criminal and deviant conduct. Response of justice system to social norms and trends; reciprocal relationship to social behaviors and values. No credit after former CRJ 2000. Offered Every Term.

CRJ 2204 Outsiders and Deviants Cr. 3
Provides an overview of the sociological student social deviance, emphasizing crime and other deviant behaviors and conditions Offered Every Term.
Equivalent: SOC 2204

CRJ 2550 Race, Crime and Justice Cr. 3
Satisfies General Education Requirement: Diversity Equity Incl Inquiry
Introduces students to sociological and legal analysis of the American justice system as a form of race based social control. The class will discuss data, theoretical approaches, and current research about the ways in which race and ethnicity are connected with criminal involvement and criminal justice processing. In doing so, we will learn about the complex ways in which the race-crime-criminal justice connection is both a product of societal forces and affects broader social relations. Offered Yearly.

CRJ 2650 Gender and Crime Cr. 3
Satisfies General Education Requirement: Diversity Equity Incl Inquiry
Critical examination of gender-related issues in criminal justice; impact on defendants, inmates, victims, and criminal justice personnel; relation to policy issues. Offered Yearly.
Equivalent: GSW 2650

CRJ 2750 Diversity Issues in Criminal Justice Cr. 3
Satisfies General Education Requirement: Diversity Equity Incl Inquiry
Critical examination of gender, race, class, and ethnicity issues in criminal justice; impact on defendants, inmates, victims, and criminal justice personnel; relation to policy issues. No credit after CRJ/GSW 3750. Offered Yearly.
Equivalent: GSW 2750

CRJ 3050 Mental Health and Crime Cr. 3
Provides a comprehensive overview of the issues and challenges located at the intersection of mental health/illness and the criminal justice system. Attention will be focused on a range of topics, including, but not limited to, the definition of mental illness, deinstitutionalization and criminalization of the mentally ill, the impact of mental illness on criminal proceedings, treatment/intervention effectiveness, and the reentry/reintegration of mentally ill individuals. Offered Fall.
Equivalent: PH 3050

CRJ 3110 Domestic Violence and Criminal Justice Cr. 4
Emotional, physical, and sexual abuse in domestic relationships. Topics include: theories of violence, law, and the response of the justice system. No credit after former CRJ 4750. Offered Fall.
Restriction(s): Enrollment is limited to Undergraduate level students.

CRJ 3120 Politics of the Criminal Justice Process Cr. 3
Satisfies General Education Requirement: Civic Literacy
Political aspects of criminal justice; politics of crime legislation, police function, prosecution, adjudication, and corrections; Federal role in criminal justice. Offered Intermittently.
Equivalent: PS 3120

CRJ 3200 Police and Society Cr. 4
Overview of policing. Topics include: social and historical origins of policing, police culture, organizational structure of policing, future of policing. No credit after former CRJ 4600. Offered Every Term.
Prerequisite: CRJ 1010 with a minimum grade of D-

CRJ 3260 Investigation Cr. 3
Overview of the history of criminal investigation, the functions of police investigators, crime scene search and evidence processing, an introduction to criminalistics, locating and interviewing witnesses, examining the elements of proof required in specific criminal offenses and interrogation techniques (pre- and post-Miranda). Offered Every Term.
Prerequisites: CRJ 1010 with a minimum grade of D-

CRJ 3350 Corrections Cr. 4
Description and analysis of legal, social and political issues affecting contemporary correctional theory and practice. Topics include: history of corrections, function and social structure of correctional institutions, institutional alternatives including diversion, probation and parole. Field trips to institutions and community correctional settings normally required. Offered Every Term.
Restriction(s): Enrollment is limited to Undergraduate level students.
Equivalent: SOC 3840

CRJ 3400 Juvenile Delinquency and Justice Cr. 4
Overview of the theoretical background, structure, and processes of contemporary juvenile justice, as well as the correlates and characteristics of delinquency. No credit after former CRJ 4410. Offered Every Term.
Prerequisite: CRJ 1010 with a minimum grade of D-
Restriction(s): Enrollment is limited to Undergraduate level students.

CRJ 3550 Research Methods in Criminal Justice Cr. 4
Overview of research design and methodology; criminal justice data sources; designs for research; and introduction to descriptive and inferential statistics in criminal justice. No credit after former CRJ 4860. Offered Every Term.
Prerequisite: CRJ 1010 with a minimum grade of D-
Restriction(s): Enrollment is limited to Undergraduate level students.

CRJ 3700 The Judicial Process Cr. 4
Structure, powers, doctrines and judicial processes including origin, nature and functions of judicial review in the criminal justice system. Offered Every Term.
Prerequisite: CRJ 1010 with a minimum grade of D-
Restriction(s): Enrollment is limited to Undergraduate level students.

CRJ 3710 Legal Writing for Criminal Justice Cr. 4
Basic elements of legal research; the law library and finding the law; case analysis; statutory analysis; constitutional analysis; writing legal memorandums; writing legal briefs; persuasive writing. Offered Every Term.

CRJ 3800 Criminological Theories Cr. 4
Delineation, review, and critical analysis of major explanations of criminality including biological, psychological, deterrence, rational choice, learning and integrated theories. Offered Fall, Winter.
Prerequisite: CRJ 1010 with a minimum grade of D-
Restriction(s): Enrollment is limited to Undergraduate level students.

CRJ 3900 Comparative Criminal Justice Cr. 3
Satisfies General Education Requirement: Global Learning Inquiry
Topics include: the foundation of criminal justice system, crime on the world scene, legal traditions, law enforcement, courts and criminal procedure, corrections, and juvenile justice around the world. Offered Yearly.

CRJ 4050 Crime and Public Health Cr. 3
Introduces students to the interface between public health and criminal justice in the United States, focusing on different aspects of the relationship. It will first describe the newly emerged epidemiological criminology, and then analyze a variety of topics on crime and public health, including, but not limited to, the health of incarcerated populations, the health of criminal justice professionals, health consequences of crime and risk behaviors, public health and law, gangs and gang violence, mental health and substance abuse, environmental justice, and public health interventions with criminal justice populations. Offered Winter.
Equivalent: PH 4050

CRJ 4220 Criminalistics Cr. 4
Application of the physical and biological sciences to criminal investigation; ballistics, fingerprints, DNA, trace evidence, drugs, arson and explosives, questioned documents, introduction to forensic anthropology, courtroom testimony, ethics. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate or Undergraduate level students.

CRJ 4310 Correctional Counseling Methods Cr. 3
Application of causal theories to counseling strategies. Models for offender classification and treatment. Counselor attitudes and styles. Special issues in the treatment of delinquents. Individual and group models for counseling. Evaluation models to assess counseling effectiveness. Offered Winter.
Prerequisite: CRJ 3400 with a minimum grade of D-
Restriction(s): Enrollment is limited to Undergraduate level students.

CRJ 4740 Constitutional Criminal Procedure Cr. 4
Topics include: constitutional safeguards, role of the Supreme Court, due process, search and seizure of persons and property, self-incrimination and confessions, right to counsel, and pre-trial and trial processes. Offered Every Term.
Prerequisite: CRJ 1010 with a minimum grade of D-
Restriction(s): Enrollment limited to students with a class of Junior or Senior.

CRJ 4970 Internship in Criminal Justice Cr. 3
A program of participation and study designed to give students the opportunity to interact with criminal justice professionals in the workplace. Internship opportunities are available in the courts, corrections, law enforcement, and other agencies. Offered Every Term.
Prerequisites: CRJ 1010 with a minimum grade of D-
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students with a class of Junior or Senior; enrollment is limited to students with a major in Criminal Justice.
Equivalent: US 6000

CRJ 4990 Directed Study Cr. 1-3
Independent reading or research in a particular facet of criminal justice, culminating in an extended paper or research report prepared under direct supervision of faculty. Offered Every Term.
Restriction(s): Enrollment is limited to Undergraduate level students.
Repeatable for 3 Credits

CRJ 4998 Honors Thesis in Criminal Justice Cr. 3-6
Research problem to be completed under the direction of a faculty member. Offered Every Term.
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment is limited to students with a major in Criminal Justice or Criminal Justice Honors.

CRJ 5500 Child Abuse and Neglect Cr. 3
Dynamics and psychopathology of child abuse: its incidence and impact on delinquent/criminal behavior, family, community, and the criminal justice system. Offered Fall.
Prerequisites: CRJ 4410 with a minimum grade of D-

CRJ 5810 Law in Human Society Cr. 3
Law and the legal structure in its social context. The development, enforcement and interpretation of law; emphasis on the American system of government. Reciprocal effects of law and the society in which it develops; comparative analysis. Designed for pre-law, criminal justice, and political science students, as well as for sociology majors. Offered Yearly.
Equivalent: SOC 5810

CRJ 5993 Writing Intensive Course in Criminal Justice Cr. 0
Satisfies General Education Requirement: Writing Intensive Competency
Disciplinary writing assignments under the direction of the instructor for CRJ 3800. Satisfies the University General Education Writing Intensive Course in the Major requirement. Students must submit and endorse the Writing Intensive (CRJ 5993) Contract stating the departmentally-approved requirements of the research writing project. Offered Every Term.
Prerequisites: May be taken concurrently: CRJ 3800 with a minimum grade of D- or AFS 2390 with a minimum grade of C or ENG 2390 with a minimum grade of C or ENG 3010 with a minimum grade of C or ENG 3020 with a minimum grade of C or ENG 3050 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students.

CRJ 5994 Dispute Resolution Cr. 3
Overview of the processes and actors in the field of dispute resolution including negotiation, mediation, arbitration, and conciliation. Offered Yearly.
Equivalent: PCS 5000, PS 5890, PSY 5710

CRJ 5995 Special Topics in Criminal Justice Cr. 3
Selected topics in criminal justice issues. Offered Every Term.
Repeatable for 9 Credits

CRJ 5996 Special Topics in Criminology Cr. 3
Special criminology topics. Offered Every Term.
Prerequisites: CRJ 1010 with a minimum grade of D-
Restriction(s): Enrollment is limited to Undergraduate level students.
Repeatable for 9 Credits

CRJ 5997 Special Topics in Law and the Legal System Cr. 3
Analysis of selected topics in the law and the legal system. Offered Intermittently.
Prerequisite: CRJ 1010 with a minimum grade of D-
Restriction(s): Enrollment is limited to Undergraduate level students.
Repeatable for 9 Credits

CRJ 7010 Contemporary Criminal Justice Cr. 3
Survey of classic literature and important contemporary studies of all major facets of criminal justice system, including law, police, prosecution, defense, judiciary, probation, corrections, and parole. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.

CRJ 7020 The Nature of Crime Cr. 3
Definition and measure of crime, crime statistics, types of criminal behavior; focus on causes of crime in context of various theoretical perspectives. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students.

CRJ 7200 Public Policy and Criminal Justice Cr. 3
Analysis of interrelationship of criminal justice system components and the political setting surrounding the formulation and administration of public policies for crime control. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students.

CRJ 7220 Delinquency and Justice Cr. 3
Empirical research on institutions which influence delinquency, including families, peers, and schools. Empirical and conceptual evaluation of delinquency theories; focus on their relationship to juvenile justice and policy. Offered Every Other Winter.
Restriction(s): Enrollment is limited to Graduate level students.

CRJ 7230 Policing and Society Cr. 3
Critical examination of role of police in contemporary society. Seminar topics include: history, culture, and social and organizational context of policing; current issues and future directions. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students.

CRJ 7240 Corrections Cr. 3
Legal, social, and political issues in both institutional and community corrections. Topics may include incarceration trends, penal philosophy, sanctions, community-based corrections, overcrowding, and related issues. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students.

CRJ 7400 Data Management and Analysis for Criminal Justice Cr. 3
Basic techniques for accessing and managing criminal justice-related data, introduction to quantitative analysis, and introduction to program evaluation. Contemporary data analysis tools in criminal justice. Offered Winter.
Prerequisite: CRJ 7860
Restriction(s): Enrollment is limited to Graduate level students.

CRJ 7405 Wrongful Conviction Cr. 3
Causes and incidence of wrongful convictions; innocence movement; psychological and social consequences for exonerees and crime victims; exoneree compensation; legal and policy reforms to reduce wrongful convictions in policing, forensic science, prosecution, and adjudication. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.

CRJ 7860 Research Methods in Criminal Justice Cr. 3
Focus on logic of research designs, sampling techniques, data collection, instrument construction, available data sources in the field of criminal justice. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.

CRJ 7870 Master's Capstone Seminar in Criminal Justice Cr. 3
Students write essays demonstrating their knowledge and critical analysis of criminological and criminal justice theory, research methods, and public policy issues. Offered Fall, Winter.
Prerequisite: CRJ 7010 with a minimum grade of B- and CRJ 7020 with a minimum grade of B- and CRJ 7860 with a minimum grade of B-
Restriction(s): Enrollment is limited to Graduate level students.

CRJ 7990 Directed Study Cr. 1-3
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 3 Credits

CRJ 7995 Special Topics in Criminal Justice and Criminology Cr. 3
Specialized topics in criminal justice. Topics may vary from semester to semester. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 9 Credits

CRJ 7999 Master's Essay Direction Cr. 3
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.

CRJ 8999 Master's Thesis Research and Direction Cr. 3,6
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students with a class of Candidate Masters.
Repeatable for 6 Credits

CSC - COMPUTER SCIENCE

CSC 0900 Office Applications Cr. 0
Self-paced course provides instruction in the Microsoft Office Application software at both introductory and advanced levels; software covered includes Word, Excel, and Power Point. Offered Every Term.
Course Material Fees: $25

CSC 0995 Co-op or Internship in Computer Science Cr. 0
Review of computer science practical experiences resulting from participation in coop/internship program. Offered Every Term.

CSC 1000 Introduction to Computer Science Cr. 3
Provides an overview of current computing technology, organization, and use. Topics surveyed include data representation and storage, hardware and software organization, communications technologies, ethical and security issues. Provides hands-on training in common application software, such as word processing, spreadsheets, presentation, as well as in electronic telecommunications, such as e-mail, Internet and database searches. The University database and Internet pages are emphasized. Offered Every Term.
Course Material Fees: $35

CSC 1002 Personal Digital Security Cr. 3
Students learn how to reduce exposure to risks and how to identify, assess and repair infected devices. Offered Every Term.

CSC 1050 Introduction to C and Unix Cr. 2
Introduction to Unix, Unix editor, and C Programming Language. Unix development tools and fundamentals of C language discussed. No credit for computer science students after CSC 1100. Offered Every Term.
Prerequisite: MAT 1800 with a minimum grade of C
Course Material Fees: $35

CSC 1100 Problem Solving and Programming Cr. 3
Problem solving with algorithms, and their realization as computer programs using a structured, general purpose programming language; data types, operators, expressions, assignment, input and output, selection and repetition control structures; modularity and procedural abstraction using functions with parameters; structured data types, arrays, pointers and strings. Offered Every Term.
Corequisite: CSC 1101

CSC 1101 Problem Solving and Programming Laboratory Cr. 1
Mandatory two-hour closed laboratory; discussion of lecture materials and completion of hands-on exercises. Implementing programs using a general purpose programming language; software resulting from this can be used in more advanced computer science courses. Offered Every Term.
Corequisite: CSC 1100
Course Material Fees: $35

CSC 1500 Fundamental Structures in Computer Science Cr. 3
Introduction to fundamental control and data structures in computer science such as algorithms and complexity; recursive algorithms; program correctness using the predicate calculus; reasoning about algorithms using mathematical induction; divide and conquer algorithms; recurrence relations; set properties and their computation; and computing with relations. Graph properties and their computation, and tree properties and their computation, will be covered if time permits. Offered Every Term.
Prerequisites: CSC 1100 with a minimum grade of C and CSC 1101 with a minimum grade of C and MAT 2010 with a minimum grade of C-
Corequisite: CSC 1501

CSC 1501 Fundamental Structures in Computer Science Lab Cr. 1
Discussion and supervised hands-on exercises to complement CSC 1500. Offered Every Term.
Corequisite: CSC 1500
Course Material Fees: $35

CSC 2000 Introduction to C++ Programming Language Cr. 3
Elements of C++; carrays, pointers and references; operators; classes and objects. No credit for Computer Science majors. Offered Every Term.
Prerequisites: MAT 1800 with a minimum grade of C- or MAT Permit to Reg ACT/SAT with a test score minimum of 4 or Math Permit to Reg - L1-L4 with a test score minimum of 4 or MAT 2010 with a minimum grade of C-
Course Material Fees: $35

CSC 2110 Computer Science I Cr. 3
Rigorous introduction to fundamental object-oriented concepts and techniques of computer programming using an object-oriented language. Introduction to data abstraction; design of abstract data types. Introduction to recursion; programming with generic data types; inheritance; polymorphism; and exception handlers. Concepts applied to console programs and event-driven programming using a simple graphics API. Offered Every Term.
Prerequisites: CSC 1100 with a minimum grade of C and CSC 1101 with a minimum grade of C and MAT 2010 with a minimum grade of C-
Corequisite: CSC 2111

CSC 2111 Computer Science I Lab Cr. 1
Mandatory two-hour supervised lab; hands-on exercises to complement CSC 2110. Object-oriented techniques in a general-purpose object-oriented programming language. Resulting software may be used in more advanced computer science courses. Offered Every Term.
Corequisite: CSC 2110
Course Material Fees: $35

CSC 2200 Computer Science II Cr. 3
Design and implementation of fundamental abstract data types of computer science (such as stacks, queues, trees, lists, hashing, and graphs), using an object-oriented language. Programming requirements include the implementation of abstract data types using arrays and dynamic links; recursion; sorting and searching; hashing; and string processing. Introduction to algorithm analysis. Offered Every Term.
Prerequisites: CSC 1500 with a minimum grade of C and CSC 1501 with a minimum grade of C and CSC 2110 with a minimum grade of C and CSC 2111 with a minimum grade of C and MAT 2010 with a minimum grade of C-
Corequisite: CSC 2201

CSC 2201 Computer Science II: Lab Cr. 1
Hands-on lab which complements lecture material in CSC 2200. Lab attendance is mandatory. Implementing data structures and algorithms using object-oriented techniques; techniques of analysis of algorithms; resulting implementations are working pieces of software that can be used in more advanced computer science courses. Offered Every Term.
Corequisite: CSC 2200
Course Material Fees: $35

CSC 3010 Ethics in Computer Science Cr. 3
Students will study the ethical and legal issues that arise with the usage and development of computing technology. Students will learn the responsibilities of the computer professionals and how to make appropriate decisions when faced with legal and ethical issues in computing. Offered Every Term.
Prerequisites: CSC 2110 with a minimum grade of C and CSC 2111 with a minimum grade of C

CSC 3020 Java Programming Cr. 3
Introduction to the fundamentals of programming using Java. Topics include: object-oriented programming, classes, constructors, flow control statements, data types, methods, inheritance, data hiding, abstraction, exceptions, file I/O, Java GUI, and Java packages. Offered Fall, Winter.
Prerequisites: MAT 1800 with a minimum grade of C- or MAT 2010 with a minimum grade of C- or MAT 2020 with a minimum grade of C- and CSC 1100 with a minimum grade of C and CSC 1101 with a minimum grade of C

CSC 3100 Computer Architecture and Organization Cr. 3
Organization and architecture of computer systems. Topics include: digital logic and digital systems; machine-level representation of data and programs; assembly level machine organization and programming; register-level description of computer execution and the functional organization of a computer; role and function of programming languages, libraries and operating systems; performance evaluation; systems programming. Offered Every Term.
Prerequisites: CSC 2200 with a minimum grade of C and CSC 2201 with a minimum grade of C and MAT 2010 with a minimum grade of C-
Corequisite: CSC 3101

CSC 3101 Computer Architecture and Organization: Lab Cr. 1
Two-hour closed lab; students explore and experiment with assembly language programming, data representation, and simple circuit design. Lab attendance is mandatory. Offered Every Term.
Corequisite: CSC 3100
Course Material Fees: $35

CSC 3110 Algorithm Design and Analysis Cr. 3
Formal techniques to support design and analysis of algorithms: underlying mathematical theory and practical considerations of efficiency. Topics include asymptotic complexity bounds, techniques of analysis, algorithmic strategies, advanced data and file structures, and introduction to automata theory and its application to language translation. Offered Fall, Winter.
Prerequisites: BE 2100 with a minimum grade of C- and CSC 2200 with a minimum grade of C and CSC 2201 with a minimum grade of C and MAT 2250 with a minimum grade of C- and MAT 2020 with a minimum grade of C-

CSC 3200 Programming Languages Cr. 3
History and overview of programming languages, virtual machines, representation of data types; sequence control; data control, sharing and type checking; run-time storage management; language translation systems; programming language semantics; programming paradigms. Offered Yearly.
Prerequisites: CSC 2200 with a minimum grade of C- and CSC 2201 with a minimum grade of C- and MAT 2010 with a minimum grade of C-

CSC 3400 Human-Computer Interaction Cr. 3
User interface design, usability, evaluation, user-centered design. Offered Intermittently.
Prerequisites: CSC 2110 with a minimum grade of C and CSC 2111 with a minimum grade of C
Course Material Fees: $10

CSC 3750 Introduction to Web Technology Cr. 3
Understanding the Internet using several access methods; required software and tools. Topics include: e-mail, FTP, Telnet, Gopher, Archie, Newsgroups, WWW, HTML, CGI and PHP scripting and how to create an active web site. Laboratory exercises required. No credit after CSC 5750. Offered Fall, Winter.
Prerequisites: CSC 1100 with a minimum grade of C and CSC 1101 with a minimum grade of C

CSC 4110 Software Engineering Cr. 3
Software life cycle; software requirement analysis; software system design; software implementation and testing; software maintenance; team programming; ethics and programmers. Offered Fall, Winter.
Prerequisites: CSC 2200 with a minimum grade of C and CSC 2201 with a minimum grade of C and MAT 2010 with a minimum grade of C- or MAT 3430 with a minimum grade of C-
Corequisite: CSC 4111
Course Material Fees: $10

CSC 4111 Software Engineering: Lab Cr. 1
Mandatory two-hour closed lab; lecture materials and hands-on exercises which complement CSC 4110. Offered Fall, Winter.
Corequisite: CSC 4110
Restriction(s): Enrollment is limited to Undergraduate level students.
Course Material Fees: $35

CSC 4290 Introduction to Computer Networking Cr. 3
Introduction of topics such as network architecture, multiple access control, packet switching, routing and flow control, congestion control and quality-of-service, Internet protocols, and elements of distributed computing. Offered Yearly.
Prerequisites: CSC 2200 with a minimum grade of C- and CSC 2201 with a minimum grade of C- and CSC 3100 with a minimum grade of C- and CSC 3101 with a minimum grade of C-
Restriction(s): Enrollment is limited to Undergraduate level students.

CSC 4420 Computer Operating Systems Cr. 3
Operating system services; file systems; CPU scheduling; memory management; virtual memory; disk scheduling; deadlocks; concurrent processes. Offered for undergraduate major credit only. Offered Fall, Winter.
Prerequisites: CSC 2200 with a minimum grade of C and CSC 2201 with a minimum grade of C and CSC 3100 with a minimum grade of C- and CSC 3101 with a minimum grade of C-
Corequisite: CSC 4421

CSC 4421 Computer Operating Systems: Lab Cr. 1
Mandatory two-hour closed lab; lecture materials and hands-on exercises which complement CSC 4420. System call interface; introduction to operating systems programming; use of simulation to better understand operating systems behavior. Offered Fall, Winter.
Corequisite: CSC 4420
Course Material Fees: $35

CSC 4500 Introduction to Theoretical Computer Science Cr. 3
Finite automata and regular expressions; context-free grammars; pushdown automata; Turing machines; hierarchy of formal languages and automata; computability and decidability. Offered Fall, Winter.
Prerequisite: (CSC 2200 with a minimum grade of C and CSC 2201 with a minimum grade of C and MAT 2010 with a minimum grade of C-) or (CSC 5050 with a minimum grade of C and MAT 2010 with a minimum grade of C-)

CSC 4710 Introduction to Database Management Systems Cr. 3
Topics include: database concepts, ER modeling, schemas and constraints, SQL and relational algebra, web-based database applications, triggers and views, physical organization and indexing, query processing, query optimization, NoSQL databases. Offered Yearly.
Prerequisites: CSC 2200 with a minimum grade of C and CSC 2201 with a minimum grade of C

CSC 4990 Directed Study Cr. 1-4
Individual study as agreed on by student and supervising faculty. Primarily for material not covered in regular courses. Offered Every Term.
Restriction(s): Enrollment is limited to Undergraduate level students.
Repeatable for 8 Credits

CSC 4992 Special Topics in Computer Science Cr. 1-3
Topics to be announced in the Schedule of Classes. Maximum of six credits may be applied toward satisfying the computer science elective, in any computer science degree program. Offered Yearly.
Prerequisite: CSC 2110 with a minimum grade of C and CSC 2111 with a minimum grade of C
Course Material Fees: $35
Repeatable for 12 Credits

CSC 4995 Professional Practice in Computer Science Cr. 1
Review of computer science practical experiences resulting from participation in the cooperative work-study program. Offered Every Term.
Restriction(s): Enrollment limited to students with a class of Junior or Senior.
Repeatable for 4 Credits

CSC 4996 Senior Project and Computer Ethics Cr. 3
Satisfies General Education Requirement: Writing Intensive Competency
Development of skills for planning, managing, implementing, and documenting complex software projects; legal, social and ethical issues in software development and computer use. Project management techniques; professional conduct, social responsibility, liability, ownership of information, privacy, security and crime. Offered Fall, Winter.
Prerequisites: CSC 4110 with a minimum grade of C- and CSC 4111 with a minimum grade of C- and CSC 4710 with a minimum grade of C-
Corequisite: CSC 4997
Restriction(s): Enrollment limited to students with a class of Senior; enrollment is limited to students with a major in Computer Science, Computer Science Honors or Information Systems Technology.

CSC 4997 Senior Project Lab Cr. 1
Development of project management skills while managing, implementing and documenting a real-world project from initial idea to final implementation. Theory, software engineering techniques, group activities, and computer tools such as Microsoft Project. Mandatory lab. Offered Fall, Winter.
Prerequisites: CSC 4110 with a minimum grade of C- and CSC 4111 with a minimum grade of C- and CSC 4710 with a minimum grade of C-
Corequisite: CSC 4996
Restriction(s): Enrollment limited to students with a class of Senior; enrollment is limited to students with a major in Computer Science, Computer Science Honors or Information Systems Technology.
Course Material Fees: $35

CSC 4999 Honors Thesis Cr. 3-6
Independent study under supervision. Offered Every Term.
Restriction(s): Enrollment limited to students with a class of Senior.

CSC 5050 Algorithms and Data Structures Cr. 4
Introduction to problem solving methods and algorithm development; data abstraction for structures such as stacks, queues, linked lists, trees, and graphs; searching and sorting algorithms and their analysis. Not for CSC major credit. Offered for graduate credit only. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: ECE 4050

CSC 5250 Network, Distributed, and Concurrent Programming Cr. 3
Fundamental concepts and skills of developing networked, distributed, and concurrent applications. Topics include: inter-process communication, TCP/IP sockets programming, remote method invocation, multithreading, concurrency and synchronization. Offered Yearly.
Prerequisites: CSC 4420 with a minimum grade of C- and CSC 4421 with a minimum grade of C-

CSC 5270 Computer Systems Security Cr. 3
Fundamental technologies for enabling an e-society which is more predictable, more accountable, and less vulnerable to attacks. Covers three components: security requirements and protocols, cryptography algorithms, and case studies. Offered Fall.
Prerequisites: CSC 5250

CSC 5280 Introduction to Cyber-Physical Systems Cr. 3
Topics include: modeling, design, analysis, and implementation of cyber-physical systems; dynamic behavior modeling, state machine composition, and concurrent computation; sensors and actuators; embedded systems and networks; feedback control systems; temporal logic and model checking. Offered Fall, Winter.
Prerequisites: CSC 3100 with a minimum grade of C- and CSC 3110 with a minimum grade of C-
Restriction(s): Enrollment limited to students in the College of Engineering.
Equivalent: ECE 5280

CSC 5290 Cyber Security Practice Cr. 3
Provides hands-on experience in playing with security software and network systems in a live laboratory environment, with the purpose of understating real-world threats. Focus will be on attacks (e.g., buffer overflow, heap spray, kernel rootkits, and denial of service), hacking fundamentals (e.g., scanning and reconnaissance), and defenses (e.g., intrusion detection systems and firewalls). Offered Winter.
Prerequisites: CSC 4420 with a minimum grade of C-

CSC 5430 Game Programming and Design I Cr. 3
Fundamentals of game programming and game design using C++, DirectX, Windows, and C#. Offered Fall.
Prerequisites: CSC 2200 with a minimum grade of C and CSC 2201 with a minimum grade of C or CSC 5250 with a minimum grade of C-
Corequisite: CSC 5431

CSC 5431 Game Programming and Design I: Lab Cr. 1
Laboratory for CSC 5430. Focus on modding, or making changes to existing programs to achieve specific results. Offered Fall.
Corequisite: CSC 5430
Course Material Fees: $25

CSC 5710 Design of Intelligent Information Retrieval Systems Cr. 3
Indexing retrieval models (vector space, probabilistic and language models); document classification models (Naive Bayes and SVM); topic models (PLSA and LDA) and learning-to-rank methods; course includes practical assignments and a team-based final project. Offered Yearly.
Prerequisites: CSC 5800 with a minimum grade of C-

CSC 5750 Principles of Web Technology Cr. 3
History and development of the world-wide web. Techniques for authoring static and dynamic content for the world-wide web. Web security techniques. Electronic commerce on the web. Lab exercises required. Offered Fall, Winter.
Prerequisites: CSC 3750 with a minimum grade of C- and MAT 2010 with a minimum grade of C-

CSC 5800 Intelligent Systems: Algorithms and Tools Cr. 3
Introduction to basic algorithms and software tools for intelligent data representation and analysis, including: data pre-processing, data exploration and visualization, model evaluation, predictive modeling, classification methods, association analysis, clustering, anomaly detection, representing extracted patterns as expertise, tools for data mining and intelligent systems such as WEKA, CLIPS, and MATLAB. Offered Intermittently.
Prerequisites: CSC 2200 with a minimum grade of C, CSC 2201 with a minimum grade of C, and MAT 2010 with a minimum grade of C- or CSC 5050 with a minimum grade of C- and MAT 2010 with a minimum grade of C-

CSC 5825 Introduction to Machine Learning and Applications Cr. 3
Through algorithmic investigation, brainstorming, and case analysis, students develop the skills and strategies that are necessary for effective leaning from data, including Big Data emerging from science and engineering. Offered Winter.
Prerequisites: CSC 3110 with a minimum grade of C-

CSC 5830 Computational Modeling of Complex Systems Cr. 3
Introduction to computer methods useful for modeling complex systems which are refractory to traditional methods of analysis. Emphasis on problem formulation and concrete examples drawn from computer science, engineering, chemistry, and biology. Offered Yearly.
Prerequisites: CSC 2200 with a minimum grade of C and CSC 2201 with a minimum grade of C or CSC 5050 with a minimum grade of C-

CSC 5870 Computer Graphics I Cr. 3
Graphics devices, graphics primitives, 2-D transformations, windowing and clipping, modeling 3-D objects, 3-D viewing transformations, hidden surface removal, shading and color. Offered Yearly.
Prerequisites: CSC 2200 with a minimum grade of C, CSC 2201 with a minimum grade of C, and MAT 2250 with a minimum grade of C- or CSC 5050 with a minimum grade of C- and MAT 2250 with a minimum grade of C-

CSC 5991 Special Topics in Computer Science Cr. 1-4
Topics to be announced in the Schedule of Classes. Offered Intermittently.
Prerequisites: CSC 2200 with a minimum grade of C and CSC 2201 with a minimum grade of C
Repeatable for 9 Credits

CSC 6110 Software Engineering Cr. 3
Software process models; advanced software system design; software project management; software analysis; testing and performance analysis; software maintenance; reverse engineering; software reuse; software metrics; object-oriented development. Offered Yearly.
Prerequisites: CSC 2200 with a minimum grade of C, CSC 2201 with a minimum grade of C, and MAT 2010 with a minimum grade of C- or CSC 5050 with a minimum grade of C- and MAT 2010 with a minimum grade of C-

CSC 6220 Parallel Computing I: Programming Cr. 4
Parallel computing concepts, examples of parallel computers, parallelism in algorithms / data / programs, experiences with state of the art parallel computers. Offered Yearly.
Prerequisites: 2 of CSC 2200 with a minimum grade of C, CSC 2201 with a minimum grade of C and 3 of CSC 3100 with a minimum grade of C-, CSC 3101 with a minimum grade of C-, CSC 5050 with a minimum grade of C-

CSC 6280 Real-Time and Embedded Operating Systems Cr. 3
Operating system design for real-time and embedded systems. Focus on scheduling, synchronization, communication, and process and memory management for time-critical and resource-constrained applications. Offered Every Other Year.
Prerequisites: CSC 4420 with a minimum grade of C- and CSC 4421 with a minimum grade of C-

CSC 6290 Data Communication and Computer Networks Cr. 3
Data communication fundamentals and principles governing computer communication networks. Components of networks, how they are connected; basics of design and implementation of network protocols. Offered Yearly.
Prerequisites: CSC 5250

CSC 6430 Game Programming and Design II Cr. 3
Game design methods, team development, languages for game design, debugging and testing, game platforms, memory management and I/O, game physics, character animation, AI agents, AI path programming, networking, online and multiplayer gaming. Offered Yearly.
Prerequisites: CSC 5430 with a minimum grade of C- and CSC 5431 with a minimum grade of C-
Corequisite: CSC 6431

CSC 6431 Game Programming and Design II: Lab Cr. 1
Architecture and tools for modern game platforms. Game development environment; basic aspects of game engine design, graphics engine design, use of shaders. Offered Yearly.
Course Material Fees: $25

CSC 6500 Theory of Languages and Automata Cr. 3
Recursive and recursively enumerable languages; decidability and computability; Rice's theorem; time complexity; space complexity. Offered Fall, Winter.
Prerequisites: CSC 4500 with a minimum grade of C-

CSC 6580 Design and Analysis of Algorithms Cr. 3
Best case, worst case, and expected case complexity analysis; asymptotic approximations; solutions of recurrence equations; probabilistic techniques; divide-and-conquer; the greedy approach; dynamic programming; branch and bound; NP-completeness; parallel algorithms. Offered Fall, Winter.
Prerequisites: CSC 3110 with a minimum grade of C-

CSC 6620 Matrix Computation I Cr. 4
Background matrix algebra; linear system sensitivity; basic transformations; Gaussian elimination; symmetric systems; positive definite systems; Householder method for least squares problems; unsymmetric eigenvalue problems; the QR algorithm. Offered Yearly.
Prerequisites: 3 of CSC 2200 with a minimum grade of C, CSC 2201 with a minimum grade of C, MAT 2250 with a minimum grade of C- and 1 of ECE 3040 with a minimum grade of C-, BE 2550 with a minimum grade of C-
Equivalent: ECE 5020

CSC 6710 Database Management Systems I Cr. 3
Data models, normal forms, relational systems and SQL, query optimization, object-oriented systems, object-relational systems, student Oracle project. Offered Yearly.
Prerequisites: CSC 4710 with a minimum grade of C-

CSC 6720 Data Science Applications Development Cr. 3
Background of SQL and NoSQL databases is necessary. This course focuses on the system development life cycle of a comprehensive data science application. Students will first choose a particular domain and problem to address one of the big data challenges: volume, velocity, or variety. Students will then choose a scalable distributed computing environment to design analytical models to solve business problems. Students will finally develop their data science application using agile methodologies to plan, analyze, design, implement, and operationalize their application. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.

CSC 6800 Artificial Intelligence I Cr. 3
Basic concepts; topics include: recursive problem solving, knowledge representation using semantic networks and frames, state space search methods, planning and problem solving, game playing and adversarial search methods, rules and production systems (RETE networks), constraint satisfaction techniques and applications, optimization algorithms including genetic algorithms, logic programming. Implementation in Lisp and Prolog. Offered Yearly.
Prerequisites: CSC 3110 with a minimum grade of C-

CSC 6860 Digital Image Processing and Analysis Cr. 3
Review of image formation and acquisition; image transformation; image enhancement and restoration; image compression; morphological image processing; edge detection and segmentation; architecture for image processing. Offered Intermittently.
Prerequisites: CSC 3110 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate or Undergraduate level students.

CSC 6870 Computer Graphics II Cr. 3
Representing curves and surfaces; solid modeling; fractal geometry; camera models; illumination models; ray tracing; radiosity methods; transparency; texture; graphics packages. Offered Yearly.
Prerequisites: CSC 5870 with a minimum grade of C-
Course Material Fees: $20

CSC 6991 Topics in Computer Science Cr. 1-4
Current topics to be announced in the Schedule of Classes. Offered Intermittently.
Prerequisites: CSC 2200 with a minimum grade of C and CSC 2201 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate or Undergraduate level students.
Repeatable for 9 Credits

CSC 6995 Internship in Computer Science Cr. 1-3
Experience in industry using tools from the computer science curriculum. Students provide a written report based on the internship experience. Offered Every Term.
Repeatable for 3 Credits

CSC 7110 Software Engineering Environments Cr. 3
Architecture of software engineering environments; syntax directed editors; CASE tools; tools for software maintenance; expert systems for software maintenance. Offered Yearly.
Prerequisite: CSC 6110 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

CSC 7220 Parallel Computing II: Algorithms and Applications Cr. 4
Problems in parallel algorithms: design, analysis, complexity. Cluster and grid computing: tools, programming, and applications. Offered Yearly.
Prerequisite: CSC 6220 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

CSC 7260 Distributed Systems Cr. 3
Models of distributed systems, distributed synchronization, algorithms, consistency and replication models and algorithms, fault-tolerance in distributed systems. Offered Every Other Year.
Prerequisite: CSC 5250 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

CSC 7270 Advanced Computer Security Cr. 3
Advanced topics in protecting information computer systems and data. Topics include, but are not limited to, crypto-algorithms and protocols (e.g., IDEA, Elliptic Curve Cryptosystems, and the Byzantine Generals Problem), and secure system design principles. Hands-on design project will reinforce the material. Offered Winter.
Prerequisite: CSC 5270 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.

CSC 7290 Advanced Computer Networking Cr. 3
Foundations of computer networking (e.g., performance evaluation and analysis, protocol specification and verification), latest development in network architecture and technology (e.g., wireless networks, sensor networks, peer-to-peer networks, vehicular networks). Offered Yearly.
Prerequisite: CSC 6290 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $25

CSC 7300 Bioinformatics I: Biological Databases and Data Analysis Cr. 3
Concepts of bioinformatics; tools for storing and analysis of bioinformatics data. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students.

CSC 7301 Bioinformatics I: Programming Lab Cr. 1
Hands-on experience and exercises for CSC 7300/MBG 7300 lectures. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $25

CSC 7410 Bioinformatics II Cr. 4
Biology of bioinformatics, DNA and protein sequencing, introduction of systems biology, mRNA expressions analysis, pathway and molecular machines analysis. Offered Winter.
Prerequisite: CSC 7300 with a minimum grade of C and CSC 7301 with a minimum grade of C and MGG 7010 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

CSC 7430 Electronic Commerce Cr. 3
Introduction to design and analysis of internet commerce systems. Protocols for electronic transactions; online payments and exchanges e-cash; game theory and mechanism design; online auction design; sponsored search auctions, combinatorial auctions. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.

CSC 7710 Database Management Systems II Cr. 3
Concurrency control, transaction processing, crash recovery, security, distributed and heterogeneous databases, data warehousing, data mining, multimedia systems, student Oracle project. Offered Yearly.
Prerequisite: CSC 6710 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

CSC 7800 Artificial Intelligence II Cr. 3
Advanced topics from these areas: machine learning techniques (inductive and deductive), neural networks and perceptrons, genetic algorithms, advanced concepts in knowledge-based system design, inexact inference, constraint satisfaction techniques and applications, object-oriented programming. Implementation in Lisp and Prolog. Offered Yearly.
Prerequisite: CSC 6800 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

CSC 7810 Data Mining: Algorithms and Applications Cr. 3
Application of various basic/advanced data mining techniques to real-world problems. Offered Winter.
Prerequisite: CSC 5800 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: IE 7811

CSC 7825 Machine Learning Cr. 3
Supervised learning including regression, kernel-based, tree-based, probability model based and ensemble learning; unsupervised learning including distance based and model based; Markov Chain Monte Carlo (MCMC) methods; graphical models; current topics from literature. Offered Fall.
Prerequisite: CSC 5825 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

CSC 7860 Computer Vision Cr. 3
Low-level vision processing, use of constraints in visual processing, three-dimensional object recognition, dynamic scene analysis, model-based vision systems, use of neural and fuzzy logic methods in vision. Offered Yearly.
Prerequisite: CSC 6860 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

CSC 7990 Directed Study Cr. 1-5
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 9 Credits

CSC 7991 Advanced Topics in Computer Science Cr. 1-4
Topics to be announced in the Schedule of Classes. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 9 Credits

CSC 8110 Seminar in Software Engineering and Environments Cr. 3
Discussion of current papers in the field. Offered Every Other Year.
Prerequisite: CSC 7110 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

CSC 8260 Seminar in Networking, Distributed Systems and Parallel Systems Cr. 3
Discussion of current research papers in the fields. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.

CSC 8710 Seminar in Database Management Systems Cr. 3
Discussion of current papers in the field. Offered Every Other Year.
Prerequisite: CSC 6710
Restriction(s): Enrollment is limited to Graduate level students.

CSC 8860 Seminar Topics in Computer Vision and Pattern Recognition Cr. 3
Discussion of current papers in the field. Offered Every Other Year.
Prerequisite: CSC 7860 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

CSC 8990 Graduate Seminar Cr. 1
Discussion of current research by faculty and visitors. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 8 Credits

CSC 8999 Master's Thesis Research and Direction Cr. 1-8
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 8 Credits

CSC 9990 Pre-Doctoral Candidacy Research Cr. 1-8
Research in preparation for doctoral dissertation. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 12 Credits

CSC 9991 Doctoral Candidate Status I: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.

CSC 9992 Doctoral Candidate Status II: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: CSC 9991 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

CSC 9993 Doctoral Candidate Status III: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: CSC 9992 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

CSC 9994 Doctoral Candidate Status IV: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: CSC 9993 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

CSC 9995 Candidate Maintenance Status: Doctoral Dissertation Research and Direction Cr. 0
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $370.26
Repeatable for 0 Credits

CTE - CAREER AND TECHNICAL EDUCATION

CTE 5401 Instructional Practices for the Career and Technical Education Classroom: Module 1 Cr. 1
The series is specifically for students seeking a vocational endorsement to teach in federally funded, secondary CTE classrooms. This module reviews the history of CTE and its impact on industry. Offered Every Term.

CTE 5402 Instructional Practices for the Career and Technical Education Classroom: Module 2 Cr. 1
This is Module Two of a six (6) module series. The series is specifically for students seeking a vocational endorsement to teach in federally funded, secondary CTE classrooms. This module reviews MCCTE Navigator standards and their relationship to industry expectations. Offered Every Term.

CTE 5403 Instructional Practices for the Career and Technical Education Classroom: Module 3 Cr. 1
This is Module Three of a six (6) module series. The series is specifically for students seeking a vocational endorsement to teach in federally funded, secondary CTE classrooms. This module reviews mastery-learning, performance-based and project-based instructional strategies in the CTE classroom. Offered Every Term.

CTE 5404 Instructional Practices for the Career and Technical Education Classroom: Module 4 Cr. 1
This is Module four of a six (6) module series. The series is specifically for students seeking a vocational endorsement to teach in federally funded, secondary CTE classrooms. This module reviews assessment strategies in the CTE classroom. Offered Every Term.

CTE 5405 Instructional Practices for the Career and Technical Education Classroom: Module 5 Cr. 1
This is Module five of a six (6) module series. The series is specifically for students seeking a vocational endorsement to teach in federally funded, secondary CTE classrooms. This module reviews Career Technical Student Organization (CTSO) and industry partner relationships. Offered Every Term.

CTE 5406 Instructional Practices for the Career and Technical Education Classroom: Module 6 Cr. 1
This is Module six of a six (6) module series. The series is specifically for students seeking a vocational endorsement to teach in federally funded, secondary CTE classrooms. This module reviews strategies for remaining current with industry and teaching profession trends. Offered Every Term.

CTE 5501 Instructional Practices for the Teacher Cadet Classroom - Module 1 Cr. 1
This is Module one of a six (6) module series. The series provides a review of teaching/learning concepts as required for the Teacher Cadet (VG) vocational endorsement. This module reviews early childhood concepts and related classroom and parent practices. Offered Every Other Year.

CTE 5502 Instructional Practices for the Teacher Cadet Classroom - Module 2 Cr. 1
This is Module two of a six (6) module series. The series provides a review of teaching/learning concepts as required for the Teacher Cadet (VG) vocational endorsement. This module reviews education concepts for preschoolers and related classroom and parent practices. Offered Every Other Year.

CTE 5503 Instructional Practices for the Teacher Cadet Classroom - Module 3 Cr. 1
This is Module three of a six (6) module series. The series provides a review of teaching/learning concepts as required for the Teacher Cadet (VG) vocational endorsement. This module reviews brain-based learning theory and its impact in the preschool classroom. Offered Every Other Year.

CTE 5504 Instructional Practices for the Teacher Cadet Classroom - Module 4 Cr. 1
This is Module four of a six (6) module series. The series provides a review of teaching/learning concepts as required for the Teacher Cadet (VG) vocational endorsement. This module reviews education concepts for primary students and related classroom and parent practices. Offered Every Other Year.

CTE 5505 Instructional Practices for the Teacher Cadet Classroom - Module 5 Cr. 1
This is Module five of a six (6) module series. The series provides a review of teaching/learning concepts as required for the Teacher Cadet (VG) vocational endorsement. This module reviews enhancing the instructional delivery system to accommodate special needs learners in the primary and early elementary classroom. Offered Every Other Year.

CTE 5506 Instructional Practices for the Teacher Cadet Classroom - Module 6 Cr. 1
This is Module six of a six (6) module series. The series provides a review of teaching/learning concepts as required for the Teacher Cadet (VG) vocational endorsement. This module reviews family and parent involvement best practices in school settings. Offered Every Other Year.

CTE 6010 History and Principles of Career and Technical Education Cr. 3
Overview of organization and administration at the federal, state, and local levels. Recent developments and their significance for school reform and improvement; business and industry linkages. Offered Yearly.

CTE 6999 Coordination of Cooperative Occupational Education Cr. 3
Philosophy and objectives of educational programs that provide for work experience. Student selection, on-the-job and in-school instruction, placement, coordination, advisory committees, and administration of such programs. Offered Yearly.

CTE 7820 Planning and Organizing Instruction in Career and Technical Education Cr. 3
Planning and organizing instruction for a competency based program: justification, approaches for content, performance objectives, instructional resources, planning and evaluating units. Should be taken in first two semesters of admission to career and technical education master's program. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.

CTE 8998 Current Issues and Trends Cr. 3
Place, function, and evolving concepts of career and technical education. Economic, sociological, psychological, and technical factors. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 6 Credits

DNC - DANCE

DNC 0512 Pilates Equipment Lab Cr. 0
Individual study in Pilates lab. Offered Fall, Winter.
Prerequisites: DNC 5110 or DNC 1305
Restriction(s): Enrollment is limited to students with a major in 2nd Dance, Dance or Dance Honors.

DNC 1010 Introduction to Modern Dance Cr. 2
Basic movement techniques and improvisational experiences in concert dance; films and concert viewing. Offered Every Term.
Course Material Fees: $85

DNC 1020 Modern Dance I Cr. 2
Continuation of DNC 1010 on an intermediate level. Offered Every Term.
Course Material Fees: $60
Repeatable for 6 Credits

DNC 1210 Fundamentals of Classic Ballet I Cr. 2
Introduction to the fundamentals of classical ballet; emphasis on vocabulary, theory and practice, including films and concert viewing. Offered Every Term.
Course Material Fees: $60
Repeatable for 8 Credits

DNC 1220 Fundamentals of Classic Ballet II Cr. 2
Continuation of DNC 1210. Offered Every Term.
Course Material Fees: $60
Repeatable for 8 Credits

DNC 1260 Introduction to the Philosophy and Practice of Iyengar Yoga Cr. 3
Yoga philosophy and practice is presented in a format to enrich appreciation for the art of Yoga as both a belief system and as a physical art form through in-depth study and discussion of its philosophical principles and daily practice of asana (postures) with attention to balance, precision and alignment. Offered Every Term.
Course Material Fees: $30

DNC 1300 Pilates Mat for Performing Artists Cr. 1
Introduction to Stott Pilates conditioning for dance and theatre artists. Offered Fall, Winter.
Restriction(s): Enrollment is limited to students with a major, minor, or concentration in Dance, Dance Honors, Theatre or Theatre Honors.
Course Material Fees: $40

DNC 1305 Pilates Reformer for Dancers Cr. 1
Continuation of DNC 1300; Pilates equipment training specifically for dancers. Offered Winter.
Prerequisites: DNC 1300 with a minimum grade of D-
Restriction(s): Enrollment is limited to students with a major, minor, or concentration in Dance or Dance Honors.
Course Material Fees: $60

DNC 1330 Production Practicum Cr. 1
Introductory technical production experience supporting concert dance performances; skill development in stage management, lighting and sound operation, videography, and stage crew responsibilities; part of Digital Dance Literacy curriculum. Offered Every Term.
Restriction(s): Enrollment is limited to students with a major in Dance or Dance Honors.
Course Material Fees: $85
Repeatable for 99 Credits

DNC 1810 Introduction to Dance Professions Cr. 3
Survey of dance professions in administration, teaching, arts management and advocacy, dance production and commercial sector. Offered Winter.
Restriction(s): Enrollment is limited to students with a major in Dance or Dance Honors.
Course Material Fees: $30

DNC 2000 Introduction to World Dance Cr. 3
Satisfies General Education Requirement: Cultural Inquiry, Global Learning Inquiry, Visual Performing Arts
Global perspective on and definition of dance, through assigned readings, writing, field trips, and laboratory experience. Focus on multicultural diversity, interdependent nature of dance. Offered Every Term.
Course Material Fees: $50

DNC 2010 Modern Dance II: Part I Cr. 2
Modern dance technique of increasing difficulty and complexity; experiences in improvisation, problem solving, and compositional studies in dance. Offered Fall, Winter.
Prerequisite: DNC 1020 with a minimum grade of C-
Restriction(s): Enrollment is limited to students with a major in Dance or Dance Honors.
Course Material Fees: $60
Repeatable for 12 Credits

DNC 2020 Modern Dance II: Part II Cr. 2
Continuation of DNC 2010. Modern dance technique of advancing difficulty; further experiences in improvisation, problem solving and composition; analysis and refinement of technique and performance skills. Offered Winter.
Prerequisite: DNC 2010 with a minimum grade of C
Restriction(s): Enrollment is limited to students with a major in Dance or Dance Honors.
Course Material Fees: $60
Repeatable for 12 Credits

DNC 2225 Contemporary Ballet Cr. 1
Investigation of movement, styles and technical foundations of Contemporary Ballet. Offered Winter.
Restriction(s): Enrollment is limited to students with a major, minor, or concentration in Dance, Dance Honors, Theatre or Theatre Honors.
Course Material Fees: $60
Repeatable for 3 Credits

DNC 2250 Men's Ballet Cr. 1
Introduction to men's ballet including terminology, movement vocabulary, aesthetics and classroom etiquette. Offered Yearly.
Prerequisites: DNC 1220 with a minimum grade of D-
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment is limited to students with a major, minor, or concentration in Dance or Dance Honors.
Course Material Fees: $60
Repeatable for 6 Credits

DNC 2260 Yoga Cr. 1
Investigation of breath, movement and increased awareness of the body/mind for dance and theatre artists through yoga postures and Vedanta philosophy. Offered Winter.
Restriction(s): Enrollment is limited to students with a major, minor, or concentration in Dance, Dance Honors, Theatre or Theatre Honors.
Course Material Fees: $50
Repeatable for 3 Credits

DNC 2300 History of Dance to 1800 Cr. 3
Survey of dance in western civilization from pre-historic times through the eighteenth century; how dance evolved from expression of primitive cultures to independent theatrical entertainment in western Europe. Offered Every Other Winter.
Course Material Fees: $30

DNC 2310 History of Dance from 1800 to the Present Cr. 3
Satisfies General Education Requirement: Cultural Inquiry, Visual Performing Arts
Introduction to critical dance studies and dance history from 1800-present. Impact of vernacular dance and historical ballet and modern concert dance on contemporary dance, examined formally and socio-culturally. How dance circulates globally as mediated and embodied history. Offered Fall, Winter.
Course Material Fees: $30

DNC 2311 Issues and Trends in Contemporary Dance Cr. 2
Discussion of current events, trends and issues; includes technology component as part of Digital Dance Literacy curriculum. Offered Every Other Fall.
Restriction(s): Enrollment is limited to students with a major in Dance or Dance Honors.
Course Material Fees: $30

DNC 2400 Introduction to African Dance Cr. 3
Satisfies General Education Requirement: Foreign Culture, Global Learning Inquiry
Exploration of African and African derived dance forms, together with their integrated philosophy, music, art and theatre forms. Lectures, videos, concert attendance and reading assignments to learn and perform dances from selected African societies. Offered Every Term.
Course Material Fees: $60

DNC 2410 Music and Dance Relationships Cr. 3
Study of the basic elements common to dance and music including rhythm, dynamics, and form. Examples of music especially composed for dance will be examined along with dance styles of historical periods; includes technology component as part of Digital Dance Literacy curriculum. Offered Winter.
Restriction(s): Enrollment is limited to students with a major in Dance or Dance Honors.
Course Material Fees: $30

DNC 2460 Dance Improvisation Cr. 2
Introduction to dance improvisational techniques and performance skills as applied to movement invention, performance, and choreography. Offered Fall.
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the Fine, Performing & Comm. Arts; enrollment is limited to students with a major in Dance or Dance Honors.

DNC 2500 Choreography I Cr. 2
Construction of motifs and dance studies based on nonliteral and literal thematic materials; emphasis on form and structural concepts. Offered Winter.
Prerequisites: DNC 2460 with a minimum grade of C
Restriction(s): Enrollment is limited to students with a major in Dance or Dance Honors.

DNC 2600 African Dance II Cr. 2
Intermediate technique and theory. Offered Fall, Winter.
Prerequisite: DNC 2400 with a minimum grade of C-
Course Material Fees: $60
Repeatable for 8 Credits

DNC 2610 Jazz I Cr. 2
Introduction to jazz dance technique; emphasis on alignment, movement isolation, rhythmic awareness, basic dance vocabulary, historical development. Offered Fall, Winter.
Repeatable for 8 Credits

DNC 2620 Tap Dance Cr. 1
Study and practice of tap dance technique and choreography. Offered Yearly.
Course Material Fees: $50
Repeatable for 3 Credits

DNC 2630 Hip Hop Dance Styles Cr. 1
Study and practice of hip hop dance styles. Offered Yearly.
Course Material Fees: $50
Repeatable for 2 Credits

DNC 3010 Modern Dance III Cr. 2
Continuation of DNC 2020; modern dance technique at the intermediate level. Offered Fall, Winter.
Prerequisites: DNC 2010 with a minimum grade of C or DNC 2020 with a minimum grade of C
Restriction(s): Enrollment is limited to students with a major in Dance or Dance Honors.
Course Material Fees: $60
Repeatable for 8 Credits

DNC 3180 Dance Kinesiology Cr. 3
Introduction to analysis of dance movement from an anatomical and mechanical point of view. Relationships between neuromuscular repatterning, alignment and technique. Offered Every Other Fall.
Restriction(s): Enrollment is limited to students with a major in Dance or Dance Honors.

DNC 3190 Movement Analysis Cr. 3
Continuation of anatomical and mechanical analyses of dance; emphasis on somatic and dance science approaches. Offered Every Other Winter.
Prerequisites: DNC 3180 with a minimum grade of D-

DNC 3200 Ballet III Cr. 2
Continuation of DNC 1220 on a more advanced technical level with emphasis on complex movement phrases and selections from classical repertory. Offered Fall, Winter.
Restriction(s): Enrollment is limited to students with a major in Dance or Dance Honors.
Course Material Fees: $60
Repeatable for 16 Credits

DNC 3220 Ballet Pointe Technique Cr. 1
Technical skill development on pointe. Offered Fall.
Prerequisite: DNC 1220 with a minimum grade of C
Restriction(s): Enrollment is limited to students with a major in Dance or Dance Honors.
Course Material Fees: $60
Repeatable for 4 Credits

DNC 3310 Dance Production Cr. 3
Concentration on selected types of dance production including an examination of purpose and content; technical considerations such as costumes, makeup, lighting and decor; the management of performance-related matters, and the use of technology, computer and video to support production work; part of Digital Dance Literacy curriculum. Offered Fall.
Restriction(s): Enrollment is limited to students with a major in Dance or Dance Honors.
Course Material Fees: $30

DNC 3410 Jazz II Cr. 2
Continuation of DNC 2610 on a more advanced level. Offered Every Term.
Prerequisite: DNC 2610 with a minimum grade of C
Course Material Fees: $50
Repeatable for 4 Credits

DNC 3500 Choreography II Cr. 2
Exploration of time, space, and design tools for choreography; focus on formal construction of small group studies and dances. Offered Fall.
Prerequisites: DNC 2410 with a minimum grade of C and DNC 2500 with a minimum grade of C
Restriction(s): Enrollment is limited to students with a major in Dance or Dance Honors.
Course Material Fees: $50

DNC 3600 Dance for Camera Cr. 2
Study and practice of making dance on film; development of basic film theory and screen dance skills and aesthetics. Open to junior and senior dance majors. Offered Fall.
Prerequisites: DNC 3500 with a minimum grade of D-
Restriction(s): Enrollment limited to students with a class of Junior or Senior; enrollment is limited to students with a major, minor, or concentration in Dance.
Course Material Fees: $30

DNC 3810 Dance Pedagogy Cr. 3
Theory and practice of dance teaching in arts education; foundational emphasis on social and cultural aspects of pedagogical theory in multiple settings. Offered Winter.
Prerequisites: AFS 2390 with a minimum grade of C or ENG 2390 with a minimum grade of C or ENG 3010 with a minimum grade of C or ENG 3020 with a minimum grade of C or ENG 3050 with a minimum grade of C
Restriction(s): Enrollment is limited to students with a major in Dance or Dance Honors.
Course Material Fees: $30

DNC 4010 Modern Dance IV Cr. 2
Continuation of DNC 3010. Modern dance technique, advanced level. Offered Fall, Winter.
Prerequisites: DNC 3010 with a minimum grade of C
Restriction(s): Enrollment is limited to students with a major in Dance or Dance Honors.
Course Material Fees: $60
Repeatable for 16 Credits

DNC 4200 Ballet IV Cr. 2
Continuation of DNC 3200 with emphasis on advanced knowledge of classical ballet vocabulary. Offered Every Term.
Prerequisite: DNC 3200 with a minimum grade of C or DNC 2210 with a minimum grade of C
Restriction(s): Enrollment is limited to students with a major in Dance or Dance Honors.
Course Material Fees: $60
Repeatable for 16 Credits

DNC 4410 Student Teaching and Seminar I Cr. 2-6
First experience in student teaching. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Undergraduate level students.

DNC 4420 Student Teaching and Seminar II Cr. 2-6
Second experience in student teaching. Offered Fall, Winter.
Prerequisite: DNC 4410 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students.

DNC 4601 Problems in Choreography Cr. 2
Seminar discussion and applied experiences in choreographic problems; intensive study of choreographic structure, content and intention. Offered Fall, Winter.
Prerequisite: DNC 2500 with a minimum grade of C
Restriction(s): Enrollment is limited to students with a major in Dance or Dance Honors.

DNC 4610 Jazz III Cr. 2
Continuation of DNC 3410 with advanced training in jazz technique and styles. Offered Fall, Winter.
Prerequisite: DNC 2500 with a minimum grade of D-
Restriction(s): Enrollment is limited to students with a major in Dance or Dance Honors.
Course Material Fees: $50

DNC 4810 Dance Teaching Methods Cr. 3
Analysis of instructional methods and materials in dance teaching including
creative movement, western concert dance, social and urban dance forms; special attention to community, recreational, private studio settings, and classroom management. Offered Every Other Winter.
Restriction(s): Enrollment is limited to students with a major, minor, or concentration in Dance or Dance Honors.

DNC 4820 Assisting in Dance Cr. 1
Assigned field work in assisting under faculty supervision. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Undergraduate level students.
Repeatable for 4 Credits

DNC 4910 Dance in Community Cr. 3
Survey of dance in community settings, with emphasis on sociocultural aspects and social inclusion of disenfranchised or underrepresented populations; includes theoretical and applied experience in community dance practice. Offered Fall.
Prerequisite: DNC 3810 with a minimum grade of D-
Restriction(s): Enrollment is limited to students with a major, minor, or concentration in Dance or Dance Honors.

DNC 5000 Performance Tour Cr. 2
Development and performance of touring dance performances off campus including regional, national, and international festivals; productions for elementary, middle and secondary school audiences. Offered Winter.
Prerequisite: DNC 5610 with a minimum grade of C or DNC 6610 with a minimum grade of C
Repeatable for 8 Credits

DNC 5560 Choreography III Cr. 2
Continuation of DNC 3500; more advanced experience in choreographic forms and exploration of collaborative and technological approaches to choreography; part of Digital Dance Literacy curriculum. Offered Fall.
Prerequisite: DNC 2500 with a minimum grade of C and DNC 3500 with a minimum grade of C
Restriction(s): Enrollment is limited to students with a major in Dance or Dance Honors.
Course Material Fees: $30
Repeatable for 6 Credits

DNC 5600 Improvisation Cr. 2
Spontaneous movement exploration in response to a variety of stimuli: literal, visual, kinesthetic, auditory, verbal, and tactile. Offered Fall.
Course Material Fees: $50

DNC 5610 Dance Company I Cr. 1
Performing company. Open to students interested in performing and/or choreographing. Offered Fall, Winter.
Prerequisite: DNC 2010 (may be taken concurrently) with a minimum grade of C or DNC 3010 (may be taken concurrently) with a minimum grade of C or DNC 4010 (may be taken concurrently) with a minimum grade of C or DNC 6010 (may be taken concurrently) with a minimum grade of C
Course Material Fees: $60
Repeatable for 8 Credits

DNC 5710 Dance Techniques Cr. 1-6
A concentrated period of advanced dance study in technique, composition and repertory, often with a visiting artist. Offered Fall, Winter.
Repeatable for 12 Credits

DNC 5800 Repertory Cr. 1
Learning, for performance, of dance repertory, dances previously choreographed by faculty, Labanotated dance, or work of artist-in-residence. Offered Fall, Winter.
Course Material Fees: $60
Repeatable for 12 Credits

DNC 5810 Teaching Creative Dance for Children Cr. 3
Approaches to creative dance experiences for children stressing the development of aesthetic and kinesthetic awareness. Focus on comprehensive arts and curriculum related materials. Offered Fall.

DNC 5830 Field Work in Creative Dance Cr. 2-8
Supervised professional study in field settings. Offered Every Term.
Prerequisite: DNC 5810 with a minimum grade of C

DNC 5910 Dance Professions Seminar Cr. 3
Advanced inquiry and study of dance professions in applied settings. Offered Every Other Year.
Prerequisite: DNC 4910 with a minimum grade of C-
Restriction(s): Enrollment is limited to students with a major in Dance or Dance Honors.

DNC 5990 Independent Study in Dance Cr. 1-4
Independent work in dance under faculty guidance. Offered Every Term.
Restriction(s): Enrollment is limited to students with a major in Dance or Dance Honors.
Repeatable for 12 Credits

DNC 5993 Writing Intensive Course in Dance Cr. 0
Satisfies General Education Requirement: Writing Intensive Competency
Disciplinary writing assignments under the direction of a faculty member. Must be selected in conjunction with a course designated as a corequisite. See Schedule of Classes for corequisites available each term. Satisfies the University General Education Writing Intensive Course in the Major requirement. Required of all majors. Offered Every Term.
Prerequisites: May be taken concurrently: DNC 2300 or DNC 2310 or DNC 3310 or DNC 3810 or DNC 4910 or AFS 2390 with a minimum grade of C or ENG 2390 with a minimum grade of C or ENG 3010 with a minimum grade of C or ENG 3020 with a minimum grade of C or ENG 3050 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students.

DNC 5995 Dance Education Teacher Standards Cr. 3
Study of Professional Teaching Standards in Dance Arts (PTSDA), culminating in student documentation in evidence-based portfolio. Offered Winter.
Prerequisites: DNC 4910 with a minimum grade of C

DNC 5996 Senior Capstone Research Cr. 3
Group and solo choreography, concert production, publicity and promotion; research component includes digital dance portfolio. Offered Winter.
Prerequisite: DNC 3500 with a minimum grade of C
Course Material Fees: $50
Equivalent: DNC 5560
Repeatable for 6 Credits

DNC 5997 Departmental Honors Thesis Cr. 3
Satisfies General Education Requirement: Honors Section
Group and solo choreography, concert production, publicity and promotion; research component includes digital dance portfolio. Offered Winter.
Prerequisite: DNC 3500 with a minimum grade of D-
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment is limited to students in the Department of Theatre and Dance; enrollment is limited to students with a major in Dance Honors.

DNC 5998 Professions Capstone Research Cr. 3
Advanced inquiry and study of dance professions in applied settings within an approved internship or fieldwork context. Serves as capstone experience for BS dance majors. Offered Winter.
Prerequisite: DNC 5910 with a minimum grade of C
Restriction(s): Enrollment is limited to students with a major in Dance or Dance Honors; enrollment limited to students in a Bachelor of Science degree.

DNC 6010 Technique Laboratory III Cr. 1
Modern Dance technique, advanced level. Offered Fall, Winter.
Prerequisite: DNC 4010 with a minimum grade of C
Repeatable for 8 Credits

DNC 6610 Dance Company II Cr. 1
Performing company. Performing, choreographic and/or production responsibilities. Offered Fall, Winter.
Prerequisite: DNC 5610 with a minimum grade of C
Repeatable for 8 Credits

DR - DISPUTE RESOLUTION

DR 6120 Human Diversity and Human Conflict Cr. 3
Relationship of human differences and conflict, and ways to nonviolently confront and work with them; differences as defined by ethnicity, race, gender, class, age, etc. Offered Winter.

DR 7100 Roots of Social Conflict Cr. 3
Background and immediate causes of social conflict, from interpersonal to national to international settings, from ethnic to gender conflict; review of destructive and constructive aspects of conflict. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.

DR 7210 Concepts and Processes of Dispute Resolution I: Negotiating Theory and Practice Cr. 3
Theoretical foundations of processes of negotiation and multi-party collaborative problem solving. Skill building simulation to integrate theory and practice. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: MGT 7780

DR 7220 Concepts and Processes of Dispute Resolution II: Neutral Intervention Theory and Practice Cr. 3
Dispute resolution growth and methods; mediation, facilitation, conciliation, fact-finding, arbitration; hybrids; dispute resolution institutions and practitioners. Offered Winter.
Prerequisite: MGT 7780 with a minimum grade of C or DR 7210 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

DR 7310 Practicum in Dispute Resolution Cr. 3
Training in facilitative mediation with opportunity to practice skills in a variety of settings. Offered Fall.
Prerequisite: DR 7210 with a minimum grade of C and DR 7220 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $225
Equivalent: LEX 7660

DR 7890 Final Seminar in Dispute Resolution Cr. 3
Capstone seminar for Dispute Resolution program. Critical issues and assumptions in the practice and research spheres. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students.

DR 7990 Directed Study in Dispute Resolution Cr. 1-4
Advanced independent readings and writing under supervision of graduate faculty member, in areas of special interest. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.

DSA - DATA SCIENCE AND ANALYTICS

DSA 6000 Data Science and Analytics Cr. 3
Basic data science and analytics concepts covered through case studies, success stories, and a semester project that cuts across all course modules. Offered Yearly.
Restriction(s): Enrollment is limited to students with a major in Data Sci & Business Analytics.

DSA 6100 Statistical Methods for Data Science & Analytics Cr. 3
Statistical methods and techniques required for data science and analytics applications covered through case studies, success stories, and a semester project that cuts across all course modules. Offered Yearly.
Restriction(s): Enrollment is limited to students with a major in Data Sci & Business Analytics.
Course Material Fees: $50

DSA 6200 Operations Research Cr. 3
Mathematical optimization models that come into play in data science and analytics applications covered through case studies and a semester project. Heuristic solution approaches will also be addressed along with sensitivity analysis techniques. Offered Yearly.
Restriction(s): Enrollment is limited to students with a major in Data Sci & Business Analytics.

DSA 6300 Decision Analysis and Simulation Cr. 3
Coherent approach to decision making, developing rules of thought to transform complex decisions into simpler decision situations covered through case studies, success stories, and a semester project that cuts across all course modules. Discusses role of discrete-event simulation for improving decision support. Offered Yearly.
Restriction(s): Enrollment is limited to students with a major in Data Sci & Business Analytics.

DSA 7500 Practicum Cr. 6
Apply theoretical knowledge acquired throughout the Big Data & Business Analytics MS program to a challenging project involving real-world business problems/opportunities and data analytics in a reliable, scalable, distributed computing environment. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Data Sci & Business Analytics.
Course Material Fees: $50
Equivalent: DSB 7500, DSE 7500

DSB - DATA SCIENCE FOR BUSINESS

DSB 6000 Data Science Strategy & Leadership Cr. 3
Provides an understanding of how organizations can leverage data science and analytics to gain competitive advantage and how to use the data to align with a company's mission and goals. Students will learn how organizations derive business value/impact, and return on investment, and the importance of interpreting and communicating the business case. Offered Yearly.

DSB 6100 Marketing Analytics Cr. 3
Application and synthesis of marketing methods and modeling approaches to design, analyze, and optimize digital marketing campaigns and to understand customer segments, customer life cycles, and lifetime values. Offered Yearly.
Restriction(s): Enrollment is limited to students with a major in Data Sci & Business Analytics.

DSB 6200 Manufacturing & Supply Chain Analytics Cr. 3
Discussion of the strategic and tactical issues surrounding the design and operation of supply chains through effective information collection, sharing, and collaboration, an understanding of applied analytical tools and methods that can be used to make better supply chain decisions and practical application of supply chain advanced planning and optimization solutions. Offered Yearly.

DSB 6300 Social and Collaboration Networks Cr. 3
Leveraging data science tools & technologies for network analysis with practical applications to support and provide a structure for fact-based decision making for individuals working to gain insight into complex organizational problems. Offered Yearly.
Restriction(s): Enrollment is limited to students with a major in Data Sci & Business Analytics.

DSB 7500 Practicum Cr. 6
Apply theoretical knowledge acquired throughout the Big Data & Business Analytics MS program to a challenging project involving real-world business problems/opportunities and data analytics in a reliable, scalable, distributed computing environment. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Data Sci & Business Analytics.
Equivalent: DSA 7500, DSE 7500

DSE - DATA SCIENCE FOR ENGINEERING

DSE 5070 Introduction to Data Computing and Programming Cr. 3
Not for CSC major credit. Offered for graduate credit only. Background in calculus and linear algebra is necessary. This course introduces students to the foundation of data computing problem solving using programming languages of Python and R. It provides students with skills that will enable them to make productive use of "data science" techniques to model and interpret data. The course covers the following topics: 1) Basic concepts of probability and statistics; 2) Python and R basics; 3) Data pre-processing, modeling, and visualizing with Python/R. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.

DSE 6000 Computing Platforms for Data Science Cr. 3
Covers an overview of various computing platforms for developing, deploying, configuring a wide range of data science applications for different domains. The programming models, characteristics of supported workload, and management of performance, cost and scalability will be compared side by side. Offered Yearly.
Restriction(s): Enrollment is limited to students with a major in Data Sci & Business Analytics.

DSE 6100 Data Modeling and Management Cr. 3
Covers both traditional data modeling and big data modeling from conceptual design, logical-to-physical mapping, to physical schema optimization. Provenance management, which concerns about the linage and history of a data product, is important for the repeatability of data analysis. The course will present various concepts of provenance and its relationships to data quality and trust. Offered Yearly.
Restriction(s): Enrollment is limited to students with a major in Data Sci & Business Analytics.

DSE 6200 Modern Databases Cr. 3
Covers an overview of databases, tools, and computing platforms. One focus is basic SQL, NoSQL, and NewSQL programming skills and a comparison of their cons and pros. In particular, the students will learn the criteria to choose a database system, either SQL or NoSQL, based on the requirements of an application domain. Offered Yearly.
Restriction(s): Enrollment is limited to students with a major in Data Sci & Business Analytics.

DSE 6300 Data Science Applications Development Cr. 3
Focuses on the software engineering cycle of developing a comprehensive data science application. Students will have the freedom to choose a computing platform, or a NoSQL database as the underlying infrastructure for developing a data science application. Students will also choose a particular domain and problem in which one needs to address one of the big data challenges: volume, velocity, or variety. Offered Yearly.

DSE 7500 Practicum Cr. 6
Apply theoretical knowledge acquired throughout the Big Data & Business Analytics MS program to a challenging project involving real-world business problems/opportunities and data analytics in a reliable, scalable, distributed computing environment. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Data Sci & Business Analytics.
Equivalent: DSA 7500, DSB 7500

ECE - ELECTRICAL AND COMPUTER ENGINEERING

ECE 2610 Digital Logic I Cr. 4
Introduction to Boolean algebra; Logic Gates; Minimization of Boolean Functions; K-Map of up to 4 variables; Basic digital circuits like adder, subtractor, multiplexers, decoders etc.; Sequential circuits; Memories; PLAs; Counters using different flip-flops such as D, T, R-S and J-K; Design of simple computer; Introduction to Verilog and FPGAs. Offered Every Term.
Prerequisites: May be taken concurrently: CSC 2000 with a minimum grade of C- and May be taken concurrently: PHY 2185 with a minimum grade of C- or PHY 2180 with a minimum grade of C-
Restriction(s): Enrollment is limited to Undergraduate level students.
Course Material Fees: $10

ECE 3040 Numerical Methods for Engineers Cr. 3
Developing numerical algorithms to provide solutions to engineering problems. Derivation of numerical algorithms and investigation of their stability, accuracy, efficiency and scalability. Programming numerical algorithms in Matlab. Topics include: Machine Round-off error, truncation error, root finding, solution of systems of linear and nonlinear algebraic equations, Taylor and Chebyshev series and rational function approximation, interpolation, regression, numerical differentiation, numerical integration, numerical solution of ordinary differential equations, and Monte Carlo methods. Offered Every Term.
Prerequisites: BE 1200 with a minimum grade of C- and MAT 2030 with a minimum grade of C- and May be taken concurrently: MAT 2150 with a minimum grade of C- or MAT 2250 with a minimum grade of C- and MAT 2350 with a minimum grade of C-
Restriction(s): Enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering.
Course Material Fees: $15

ECE 3300 Introduction to Electrical Circuits Cr. 4
Electrical quantities and waveforms; resistance and Ohm's law; networks and Kirchhoff's laws; network equivalents; nodal and mesh analysis; Thevenin's theorem and other network theorems. First- and second-order systems. Offered Every Term.
Prerequisites: PHY 2185 with a minimum grade of C- or PHY 2180 with a minimum grade of C- and May be taken concurrently: MAT 2150 with a minimum grade of C- or MAT 2250 with a minimum grade of C- and MAT 2350 with a minimum grade of C-
Restriction(s): Enrollment limited to students in the College of Engineering; enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering.
Course Material Fees: $25

ECE 3320 Introduction to Electrical Circuits Cr. 4
Electrical signals and waveforms; resistance and Ohm's law; networks and Kirchhoff's laws; network equivalents; nodal and mesh analysis; Thevenin's theorem; energy storage systems; Introduction to sinusoidal steady-state response; complex frequency concepts; Frequency responses. No credit towards B.S. EE degree. Offered Yearly.
Prerequisites: PHY 2185 with a minimum grade of C- or PHY 2180 with a minimum grade of C- and May be taken concurrently: MAT 2150 with a minimum grade of C-

ECE 3330 Electrical Circuits II Cr. 4
Sinusoidal steady-state response; three-phase systems; complex frequency concepts; frequency responses; resonant and coupled circuits; application of Fourier transforms and Laplace transform to electrical circuits. Offered Every Term.
Prerequisites: MAT 2150 with a minimum grade of C- or MAT 2250 with a minimum grade of C- and MAT 2350 with a minimum grade of C- and ECE 3300 with a minimum grade of C-
Restriction(s): Enrollment limited to students in the College of Engineering; enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering.

ECE 3570 Electronics Cr. 4
DC and small signal analysis of diodes, MOSFETs, and BJTs circuits; operational amplifiers, single-stage amplifiers, differential pair, gain, input resistance, output resistance, and bandwidth of amplifiers. Offered Every Term.
Prerequisite: ECE 3330 (may be taken concurrently) with a minimum grade of C- and ECE 3300 with a minimum grade of C-
Restriction(s): Enrollment limited to students in the College of Engineering; enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering.
Course Material Fees: $15

ECE 3620 Introduction to Microcomputers Cr. 4
Basics of digital systems, number systems, functional blocks of microcomputers, assembly language and machine code, applications of microcomputers and experimental demonstrations. Introduction to digital logic. Offered Every Term.
Prerequisites: BE 1200 with a minimum grade of C- and ECE 2610 with a minimum grade of C- or ECE 3610 with a minimum grade of C-
Restriction(s): Enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering.
Course Material Fees: $25

ECE 4050 Algorithms and Data Structures Cr. 4
Introduction to problem solving methods and algorithm development; data abstraction for structures such as stacks, queues, linked lists, trees, and graphs; searching and sorting algorithms and their analysis. Offered Yearly.
Prerequisite: CSC 2000 with a minimum grade of C-
Restriction(s): Enrollment limited to students in the College of Engineering; enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering.
Equivalent: CSC 5050

ECE 4330 Linear Systems and Signals Cr. 4
Content includes: continuous-time and discrete-time linear systems and signals; properties of linear systems; classical analysis methods and convolution; system analysis method for zero-state and zero-input response; Laplace transform and its application to linear system analysis; Fourier series expansion of periodic signals; Fourier transform and the steady-state response; application to analog filters, control and communication systems; solution of linear difference equations; z-transform analysis method; sampling theory; discrete-time Fourier transform and its application in digital filter design. Offered Every Term.
Prerequisites: ECE 3330 with a minimum grade of C- and May be taken concurrently: ECE 3040 with a minimum grade of C- or BE 2550 with a minimum grade of C-
Restriction(s): Enrollment limited to students in the College of Engineering; enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering.

ECE 4331 Systems and Signals Laboratory Cr. 2
Experiments cover signal generation, signal manipulations and signal measurements, electronic oscillators, steady-state, zero-state and zero-input responses of linear circuits, harmonic sinusoidal content (Fourier Series) of periodic signals, low-pass, high-pass, band-pass and notch filter circuits, network functions, solution of differential equations using operational amplifier circuits, amplitude modulation and demodulation of speech signals, signal sampling and reconstruction. Offered Fall, Winter.
Prerequisite: ECE 4330 (may be taken concurrently) with a minimum grade of C-
Restriction(s): Enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering.

ECE 4340 Microcomputer-Based Instrumentation Laboratory Cr. 2
Multipurpose personal-computer-based approach to real time instrumentation. Current interfacing and software used for data acquisition, transmission, analysis and report writing. Offered Every Term.
Prerequisites: ECE 2610 with a minimum grade of C- or ECE 3610 with a minimum grade of C- and ECE 3570 with a minimum grade of C- and ECE 3330 with a minimum grade of C-
Restriction(s): Enrollment limited to students in the College of Engineering; enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering.
Course Material Fees: $10

ECE 4470 Control Systems I Cr. 4
System representations; feedback characteristics; time-domain characteristics; signal flow graph, Routh-Hurwitz criteria; Root Locus Plots; Nyquist criteria, Bode plots; PID, phase-lead and phase-lag controller design. Offered Every Term.
Prerequisite: ECE 4330 with a minimum grade of C-
Restriction(s): Enrollment limited to students in the College of Engineering; enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering.

ECE 4570 Fundamentals of Microelectronic Devices Cr. 4
Aspects of electrical properties of semiconductors, the physical electronics of P-N junction, bipolar, field effect transistors, and device fabrication technology essential to understanding semiconductor active devices and integrated circuits. Introduction to the behavior of semiconductor and electronics devices. Offered Every Term.
Prerequisites: ECE 3300 with a minimum grade of C- and MAT 2150 with a minimum grade of C-
Restriction(s): Enrollment limited to students in the College of Engineering; enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering.

ECE 4600 Capstone Design I Cr. 4
Satisfies General Education Requirement: Writing Intensive Competency
Design principles, subsystems of microcontrollers; designing products using microcontrollers, sensors and actuators. Offered Every Term.
Prerequisite: ENG 3050 with a minimum grade of C- and ECE 3620 with a minimum grade of C-
Restriction(s): Enrollment limited to students with a class of Senior; enrollment limited to students in the College of Engineering; enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering.

ECE 4680 Computer Architecture Cr. 4
An introduction to computer architecture. Instruction set architecture; performance analysis of computer systems; basic processor design and implementation techniques; pipelined processor design; design of the control unit, memory hierarchy and cache design; I/O. Offered Yearly.
Prerequisites: BE 2100 with a minimum grade of C- and ECE 2610 with a minimum grade of C- and ECE 3620 with a minimum grade of C-
Restriction(s): Enrollment limited to students in the College of Engineering; enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering.

ECE 4700 Introduction to Communication Theory Cr. 4
Basic information transmission concepts. Spectral analysis. Transmission through linear networks. Sampling principles. Digital and analog communication signals and systems. The effect of noise in communication systems. Elementary decision theory. Offered Every Term.
Prerequisite: (BE 2100 with a minimum grade of C- or BE 3220 with a minimum grade of C-) and ECE 4330 with a minimum grade of C-
Restriction(s): Enrollment limited to students in the College of Engineering; enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering.

ECE 4800 Electromagnetic Fields and Waves I Cr. 4
Fundamentals of electromagnetic engineering, static electric and magnetic fields using vector analysis and fields of steady currents, Maxwell's equations and boundary value problems. Basic principles of plane waves, transmission lines and radiation. Offered Every Term.
Prerequisite: ECE 3330 with a minimum grade of C-
Restriction(s): Enrollment limited to students in the College of Engineering; enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering.

ECE 4850 Engineering Optics Cr. 4
Topics include: lightwave fundamentals, optical sources and detectors, optical fibers and waveguides, optical instrumentation, optical sensors for self-driving vehicles and robotics, applications optical devices and systems. Offered Yearly.
Prerequisite: ECE 3330 with a minimum grade of C-
Restriction(s): Enrollment limited to students in the College of Engineering; enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering.

ECE 4990 Directed Study Cr. 1-4
Supervised study and instruction in a field selected by the student. Offered Every Term.
Restriction(s): Enrollment limited to students with a class of Senior; enrollment limited to students in the College of Engineering; enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering.
Repeatable for 4 Credits

ECE 5020 Matrix Computation I Cr. 4
Background matrix algebra; linear system sensitivity; basic transformations; Gaussian elimination; symmetric systems; positive definite systems; Householder method for least squares problems; unsymmetric eigenvalue problems; the QR algorithm. Offered Yearly.
Prerequisites: 3 of CSC 2200 with a minimum grade of C, CSC 2201 with a minimum grade of C, MAT 2250 with a minimum grade of C- and 1 of ECE 3040 with a minimum grade of C-, BE 2550 with a minimum grade of C-
Equivalent: CSC 6620

ECE 5100 Quantitative Physiology Cr. 4
Basic principles of human physiology presented from the engineering perspective. Bodily functions, their regulation and control discussed in quantitative terms and illustrated by mathematical models where feasible. Offered Fall, Winter.
Equivalent: BME 5010, CHE 5100, ME 5100

ECE 5280 Introduction to Cyber-Physical Systems Cr. 3
Topics include: modeling, design, analysis, and implementation of cyber-physical systems; dynamic behavior modeling, state machine composition, and concurrent computation; sensors and actuators; embedded systems and networks; feedback control systems; temporal logic and model checking. Offered Fall, Winter.
Prerequisites: CSC 3100 with a minimum grade of C- and CSC 3110 with a minimum grade of C-
Restriction(s): Enrollment limited to students in the College of Engineering.
Equivalent: CSC 5280

ECE 5330 Modeling and Control of Power Electronics and Electric Vehicle Powertrains Cr. 4
Basic methodologies for modeling, control system design of renewable power sources and power electronics systems. Offered Fall.
Restriction(s): Enrollment is limited to Graduate or Undergraduate level students; enrollment limited to students in the College of Engineering.
Equivalent: AET 5330, EVE 5430

ECE 5340 Advanced Energy Storage Systems for Electrification of Vehicles Cr. 4
The objective of this course is to learn fundamentals of energy storage systems for electric-based transportation and to provide basic knowledge in the multidisciplinary field of energy storage devices and their applications for land, space and marine vehicles. The focus of the course will be on advanced batteries, supercapacitors, and fuel cells for transpiration applications; battery sizing and integration to various land-marine-space vehicles; and the fundamentals of battery management systems including various methodologies in electrical control and thermal management modes. Offered Intermittently.

ECE 5350 Alternative Energy Sources and Conversions Cr. 4
Covers the fundamentals of alternative energy sources and conversion of these sources to electrical energy. The focus will be on solar and wind energy sources, covering design and operation of photovoltaic cells, solar thermal technologies, and design and operation of wind towers and wind farms. Other topics include: principle operations of geothermal energy, nuclear power plants, hydro-power, tidal and ocean waves and various methods of capturing and transforming these energy resources to electricity. Offered Intermittently.

ECE 5410 Power Electronics and Control Cr. 4
Control of electric energy using power electronic semiconductor devices; mathematical analysis of circuits containing these devices; design, modeling and control of power converters; applications of power electronic converters. Offered Spring/Summer.
Prerequisites: ECE 4330 with a minimum grade of C-
Restriction(s): Enrollment limited to students in the College of Engineering.
Equivalent: EVE 5410

ECE 5425 Robotic Systems I Cr. 4
Introduction to robot kinematics and control. Computational algorithms for robot movement, sensor fusion, and intelligent behavior, which are needed to build a system that performs actions and interacts with its environment. Offered Fall.
Prerequisites: BE 2550 with a minimum grade of C- or BE 1500 with a minimum grade of C- or BME 5020 with a minimum grade of C- or ECE 3040 with a minimum grade of C-
Equivalent: BME 5425

ECE 5430 Electric Energy Systems Engineering Cr. 4
Transmission capacity, load characteristics, power frequency control. Energy system component analysis and modeling. Steady-state analysis, load-flow problem and algorithms, optimal dispatch. Transient stability by simulation and direct methods. Offered Intermittently.
Prerequisites: ECE 4330 with a minimum grade of C-

ECE 5440 Computer-Controlled Systems Cr. 4
Introduction to z-transform and sampling theory. Digital controller design using both transfer function techniques and state space methods. Implementation aspects of computer-controlled systems. Offered Yearly.
Prerequisites: ECE 4470 with a minimum grade of C- or CHE 4600 with a minimum grade of C- or ME 5540 with a minimum grade of C-

ECE 5460 Stochastic Processes in Engineering Cr. 4
Elements of probability theory. Random variables. Random sequences. Convergence concepts, limit theorems and sampling. Gaussain processes and Brownian motion. Martingales and Markov Processes. Frequency-domain analysis. White noise representations. Sampling Theorem. Wiener Filtering. Recursive Filtering. Linear and nonlinear differential systems. Likelihood ratios and applications. Offered Every Other Year.
Prerequisites: 1 of ECE 4330, ME 5000 and IE 3220 with a minimum grade of C-

ECE 5470 Control Systems II Cr. 4
State space representation of systems; stability and Liapunov methods, controllability and observability, pole placement design using state feedback, observer design, optimal control, linear quadratic regulators, Kalman filter. Offered Yearly.
Prerequisites: ECE 4470 with a minimum grade of C-

ECE 5550 Solid State Electronics Cr. 4
Physical basis for the opto-electric properties of solids with particular emphasis on semiconductors. Basic principles associated with solid-state devices. Extrinsic and intrinsic semiconductors. Behavior of P-N junctions, bi-polar and field-effect transistors. PC-based simulation of device characteristics using the PC1D simulator. Offered Every Term.
Prerequisites: ECE 4570 with a minimum grade of C- and ECE 4800 with a minimum grade of C-

ECE 5575 Introduction to Micro and Nano Electro Mechanical Systems (MEMS/NEMS) Cr. 4
General and specialized micro/nanofabrication techniques; basic sensing and actuating mechanisms (piezoresistive, piezoelectric, capacitive, electrostatic, thermal pneumatic, etc.); and design and operation of various MEMS/NEMS devices for automotive and biomedical applications; fabrication and characterization of basic MEMS structures. Offered Winter.

ECE 5610 Introduction to Parallel and Distributed Systems Cr. 4
Fundamentals of parallels and distributed systems. Programming experience in both computing environments. Offered Yearly.

ECE 5620 Embedded System Design Cr. 4
Microcontroller architecture and its subsystems. Wired and wireless protocols for vehicular networking applications. Design and implementation of real-time embedded systems. Offered Every Term.
Prerequisites: ECE 4600 with a minimum grade of C-

ECE 5650 Computer Networking and Network Programming Cr. 4
Overview of networks and the Internet, the application layer, socket programming, the transport Layer, the network Layer, the link Layer: links, access networks, and LANs. Introduction to Software-Defined networking, OpenFlow, and wireless and mobile networks. Projects provide students with hands-on experience in developing network applications. Labs provides students with hands-on experience with network layers and protocols. Offered Every Term.
Prerequisites: ECE 4050 with a minimum grade of C-

ECE 5680 Computer-Aided Logical Design and FPGAs Cr. 4
Topics include: review of digital design; advanced applications of Boolean algebra techniques; Computer-Aided Logical Design for large Boolean functions and simplification; threshold function; linear sequential machines; design using Verilog and FPGAs; introduction to cadence. Offered Winter.
Prerequisites: ECE 4680 with a minimum grade of C-

ECE 5690 Introduction to Digital Image Processing Cr. 4
Provide college engineering seniors and first-year graduate students with introductory preparation in mathematical analysis, vectors, matrices, probability, statistics, sequences and series, and computer programming. Includes concepts of digital image processing from an operational perspective with good exposure to theory, accessibility of DIP to engineering, and a detailed review of current techniques. Offered Fall.
Prerequisites: BE 2100 with a minimum grade of C-, ECE 4050 with a minimum grade of C-, and ECE 4330 with a minimum grade of C-

ECE 5700 Digital Communications Cr. 4
Digital modulators and demodulators, M-ary PSK, M-ary FSK, optimal receiver for AWGN channel. correlator receiver, matched filter receiver, analysis of probability of bit errors for digital communication systems, Shannon limit, simulation of digital communication system. Offered Intermittently.
Prerequisites: ECE 4700 with a minimum grade of C-

ECE 5770 Digital Signal Processing Cr. 4
Analysis of discrete signals and systems. Applications to digital filtering, active filters, digital communication and encoding. Offered Yearly.
Prerequisites: ECE 4700 with a minimum grade of C-

ECE 5870 Optical Communication Networks Cr. 4
Laser and detectors; modulation and demodulation; optical transmitters and receivers; optical filters; optical amplifiers; architecture and network control; multi-access networks; FDDI networks, SONET/SDH, ATM, system performance. Offered Yearly.
Prerequisites: ECE 4700 with a minimum grade of C- and ECE 4850 with a minimum grade of C-

ECE 5990 Directed Study Cr. 1-4
Supervised study and instruction in the field selected by the student. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students in the Department of Electrical & Computer Engineer.
Repeatable for 4 Credits

ECE 5995 Special Topics in Electrical and Computer Engineering I Cr. 1-4
Special subject matter in electrical and computer engineering. Topics to be announced in Schedule of Classes . Offered Every Term.
Repeatable for 8 Credits

ECE 6180 Biomedical Instrumentation Cr. 4
Engineering principles of physiological measurements, signal conditioning equipment, amplifiers, recorders and transducers. Recent advances in instrumentation. Offered Winter.
Prerequisites: BME 5020 with a minimum grade of B- and ECE 3300 with a minimum grade of C- or BME 5040 with a minimum grade of B-
Equivalent: BME 6480, ME 6180

ECE 6570 Smart Sensor Technology I: Design Cr. 4
Introduction to various types of sensors and the design of basic analog VLSI circuit building blocks. Offered Winter.
Equivalent: BME 6470, PHY 6570

ECE 6660 Introduction to VLSI Systems Cr. 4
Survey of very large scale integrated circuit components and design procedures. MOS fabrication, MOS gates, circuit architecture, device design, manufacturing and interface techniques. Offered Yearly.
Prerequisite: ECE 4680 with a minimum grade of C-
Course Material Fees: $30

ECE 6991 Industrial Internship Cr. 1-4
Internship experience that satisfies the curricular practical training requirements. Offered for graduate credit only. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 4 Credits

ECE 7030 Mathematical Methods in Engineering I Cr. 4
Introduction to functional analysis. Banach and Hilbert spaces. Fixed-point and projection theorem techniques. Approximation, estimation, and optimization theory. Applications to numerical and error analysis, non-linear equations, and modeling system identification. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.

ECE 7100 Mathematical Modeling in Impact Biomechanics Cr. 4
Review of models created for impact simulations. Regional impact simulation models. Human and dummy models subject to various restraint systems. Offered Winter.
Prerequisite: BME 5010 with a minimum grade of B-
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: BME 7100, IE 7100, ME 7100

ECE 7420 Nonlinear Control Systems Cr. 4
Provide examples of nonlinear dynamical control systems, perform system analysis using phase-portrait, and examine stability using Lyapunov's direct method and invariant set theorems (local and global stability). Introduce describing function method, feedback linearization technique, internal dynamics, and zero-dynamics. Design nonlinear robust controllers. Offered Fall.
Prerequisite: ME 6550 with a minimum grade of C or ECE 5470 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.
Equivalent: ME 7590

ECE 7425 Robotics Systems II Cr. 4
Project-based class to understand technology that interfaces computer engineering, software design, electronics and sensors with robotics. Advanced application areas of robotics will be covered including medical, military, space, vehicle robotics. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.
Equivalent: BME 7425

ECE 7430 Control of Discrete Event Systems Cr. 4
Automation model of discrete event systems; formal languages and regular expressions; supervisory control; controllability and observability; decentralized control and co-observability; timed discrete event systems; performance analysis; applications to manufacturing systems and power systems. Offered Every Other Year.
Prerequisite: ECE 5440 with a minimum grade of C or ECE 5470 with a minimum grade of C or ME 5550 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

ECE 7440 Dynamic Systems and Optimal Control Cr. 4
Formulation of optimal control problems. Pontryagin's maximum principle and necessary conditions for optimality, with applications. Dynamic programming; Hamilton-Jacobi equation; optimal feedback control. Offered Intermittently.
Prerequisite: ECE 5440 with a minimum grade of C or ECE 5470 with a minimum grade of C or ME 5550 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

ECE 7530 Advanced Digital VLSI Design Cr. 4
Topics include: review of VLSI Design processes; CADENCE tools used to simulate and generate the schematic and layout of the synthesized hardware description language codes; and chip fabrication. Offered Winter.
Prerequisite: ECE 5680 with a minimum grade of C and ECE 6660 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

ECE 7570 Smart Sensor Technology II: Characterization and Fabrication Cr. 4
Integration of ongoing research in integrated technology of smart sensors. Design of smart sensor devices using computer simulation. Fabrication of smart sensor. Offered Spring/Summer.
Prerequisite: ECE 6570 with a minimum grade of B- or BME 6470 with a minimum grade of B- or PHY 6570 with a minimum grade of B-
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $50
Equivalent: BME 7470, PHY 7580

ECE 7590 Biomedical Microsystems Cr. 4
Biomedical microsystems, with a focus on microfluidics and lab-on-a-chip technologies for medical diagnostics and biological research. Broad coverage of microscale physics; microfabrication methods; separation, purification, and other on-chip processes; biosensing. Offered Fall.
Prerequisite: ECE 5575 with a minimum grade of C or ECE 6570 with a minimum grade of C or BME 6470 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: BME 7490, CHE 7490

ECE 7610 Advanced Parallel and Distributed Systems Cr. 4
Advanced topics in parallel and distributed computing, multicore and parallel architecture, communication, synchronization, parallel algorithms and programming, load balancing and scheduling, security. Offered Winter.
Prerequisite: ECE 5610 or ECE 5650
Restriction(s): Enrollment is limited to Graduate level students.

ECE 7650 Scalable and Secure Internet Services and Architecture Cr. 4
Advanced principles of distributed and cloud computing systems, Internet servers and data centers, content delivery networks, software-defined networking, Internet of things, multimedia networking, performance scalability, energy-aware resource management, security, cost-effective engineering design. Offered Winter.
Prerequisite: ECE 5610 with a minimum grade of C or ECE 5650 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

ECE 7660 Parallel Computer Architecture Cr. 4
Review of parallel computer architectures, including symmetric multiprocessors and scalable machines. Parallel software basics for various architectures. Fundamental issues including cache coherence, interconnection network, and synchronization; influence of these on performance of applications. Offered Yearly.
Prerequisite: ECE 5610 with a minimum grade of C and ECE 5620 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

ECE 7680 Advanced Digital Image Processing and Applications Cr. 4
Advanced aspects, algorithms, methods in digital image processing and their corresponding applications in different fields. Students develop comprehensive skills and knowledge in digital image processing. Offered Yearly.
Prerequisite: ECE 5690 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

ECE 7690 Fuzzy Systems Cr. 4
From basic fuzzy set theory to advanced topics such as neuro-fuzzy systems. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.

ECE 7700 Statistical Communication Theory Cr. 4
Decision theory, binary decisions with single and multiple observations, signals in additive Gaussian noise, sequential decision theory, estimation theory, Kalmon filtering. Offered Yearly.
Prerequisite: ECE 5700 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

ECE 7730 Telematics Cr. 4
Introduction to automotive telematics, mobile communication channels, error correction, automatic crash response, vehicle diagnostics, vehicle tracking, vehicle safety, navigation, and current topics in telematics. Offered Winter.
Prerequisites: ECE 5700 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

ECE 7740 Medical Imaging Systems Cr. 3
Exposes students to the world of medical and biomedical imaging with emphasis on principles, approaches and applications of each modern imaging modality. Basic knowledge of MATLAB programming language is required. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: BME 7730

ECE 7850 Fiber and Integrated Optics Cr. 4
Discussion of geometric optics and ray propagation in optical fibers. Extension to physical optics and Maxwell's equations. Analysis of mode coupling and graded index fibers. Integrated optical waveguides: dielectric slabs and integrated optic networks. Coupling phenomenon, light sources, and detectors. Photon statistics and their relation to bit error rates. Power budgets, fan-in, and fan-out as applied to data link design. Offered Yearly.
Prerequisite: ECE 5870 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

ECE 7860 Operation and Control of Modern Power Systems Cr. 4
Topics include power system optimal dispatch; power system stability analysis and control; smart grid technologies and applications, covering modeling and control of renewable energy systems; distributed generation; microgrid architecture and control; demand response; energy storage for power grids; grid interface and integration of renewable sources; and electricity market fundamentals. Offered Fall.
Prerequisite: ECE 5430 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

ECE 7990 Directed Study Cr. 1-8
Supervised study and instruction in an advanced topic. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 12 Credits

ECE 7995 Special Topics in Electrical and Computer Engineering II Cr. 1-4
A consideration of special subject matter in electrical and computer engineering. Topics to be announced in Schedule of Classes . Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 12 Credits

ECE 7996 Research Cr. 1-8
Design, investigation and experimental work on some phase of electrical and computer engineering. Written report required. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 8 Credits

ECE 8999 Master's Thesis Research and Direction Cr. 1-8
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students with a class of Candidate Masters.
Repeatable for 8 Credits

ECE 9990 Pre-Doctoral Candidacy Research Cr. 1-8
Research in preparation for doctoral dissertation. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 12 Credits

ECE 9991 Doctoral Candidate Status I: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.

ECE 9992 Doctoral Candidate Status II: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: ECE 9991 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

ECE 9993 Doctoral Candidate Status III: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: ECE 9992 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

ECE 9994 Doctoral Candidate Status IV: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: ECE 9993 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

ECE 9995 Candidate Maintenance Status: Doctoral Dissertation Research and Direction Cr. 0
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $370.26
Repeatable for 0 Credits

ECE 9997 Doctoral Seminar Cr. 1-4
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 4 Credits

ECO - ECONOMICS

ECO 1000 Survey of Economics Cr. 4
Satisfies General Education Requirement: Social Inquiry, Social Sciences
Scope of economics and the task of the economist in modern society; the market economy, its evolution and development; non-market economies; economic problems and prospects in the contemporary world. Not for ECO major or minor credit. Offered Every Term.

ECO 1400 Economic Inequality Cr. 4
Provides students with a broad survey of economic inequality. Covers conceptual debates on inequality, starting with varying theories that explain inequality. A unit will focus on inequality in the United States and in industrially developed nations, and a unit will focus on the tension between global inequalities as well as the emerging global middle class. Examines the divergent outcomes for the middle and working class in industrially developed (wealthy) nations as well as the growing global middle class, especially from emerging nations such as China and India. Offered Fall, Winter.

ECO 1600 Introduction to Economic Thought Cr. 4
Provides students with a broad historical survey of the field of economics, starting from the pre-industrial era. The course looks at economic ideas starting from the classical thinkers (Smith, Bentham, Malthus, Ricardo, Mill, and Marx) to the emergence of modern classical economics and institutional (Marshal and Veblin). It completes the survey by examining the development of macroeconomics of Keynes and his critics (Hayek, Schumpeter, and Friedman) and presents the modern contest of ideas, culminating with the economic consequences of the 2008 Financial Crisis. Offered Fall, Winter.

ECO 2010 Principles of Microeconomics Cr. 4
Satisfies General Education Requirement: Social Inquiry, Social Sciences
Supply, demand, price at the level of the firm and industry; business institutions and their operation; determinants of wage and salary levels, interest rates, rent, profits, income distribution; public policy in relation to business and labor. Offered Every Term.

ECO 2020 Principles of Macroeconomics Cr. 4
Satisfies General Education Requirement: Social Inquiry, Social Sciences
Determination of national income, consumption and saving, and investment; money, banking and the Federal Reserve; inflation and unemployment; monetary and fiscal policy; economic growth and productivity; the international sector. Offered Every Term.

ECO 2550 U.S. Health Care: Policy and Economics Cr. 4
Provide students with a basic understanding of economics as applied to health, health care, and health policy. Covers economic factors relating to consumer, producer, and government behavior. Emphasis will be placed on analyzing issues currently affecting the U.S. health care system, using an international perspective to inform policy recommendations. Offered Fall, Winter.

ECO 3990 Directed Study Cr. 1
For the student who shows evidence of ability and interest in economic study and who desires opportunity for advanced reading in a special field. Arrange with advisor. Offered Every Term.
Prerequisites: ECO 1000-ZZZZ with a minimum grade of B or ECO 1000-ZZZZ with a minimum grade of B or ECO 1000-ZZZZ with a minimum grade of B or ECO 1000-ZZZZ with a minimum grade of B
Restriction(s): Enrollment limited to students with a class of Senior; enrollment is limited to students in the Department of Economics; enrollment is limited to students with a major in Economics or Economics Honors.
Repeatable for 2 Credits

ECO 4991 Research in Economics Cr. 3-12
Economic research on an appropriate topic of the student's choice, conducted under faculty supervision. Does not count toward 32-credit requirement for the ECO major. Offered Every Term.
Prerequisites: ECO 1000-ZZZZ with a minimum grade of B or ECO 1000-ZZZZ with a minimum grade of B or ECO 1000-ZZZZ with a minimum grade of B or ECO 1000-ZZZZ with a minimum grade of B
Restriction(s): Enrollment limited to students with a class of Senior; enrollment is limited to students in the Department of Economics; enrollment is limited to students with a major in Economics or Economics Honors.
Repeatable for 12 Credits

ECO 4995 Venture Capital, Entrepreneurship and Impact Investing Cr. 1
Provides an insider's look at the venture capital industry, entrepreneurship, and social impact investing. Presents a broad overview of the types of background knowledge needed to launch a company, engage in social impact investing, and/or to become a venture capitalist. Participation in this course will help students develop their analytical and decision making skills as well as their presentation skills. The final class project will be an investor pitch contest presented during the last week of class. Offered Yearly.

ECO 4997 Senior Honors Research Cr. 4
Individually arranged meetings with faculty member to discuss research methodology and readings in areas of research selected by instructor. A senior honors essay of a length proportionate to the selected topic will be required. Offered Every Term.
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students with a class of Senior; enrollment is limited to students in the Department of Economics; enrollment is limited to students with a major in Economics Honors; enrollment limited to students in a Bachelor of Arts degree.

ECO 5000 Intermediate Microeconomics Cr. 4
Theory of the firm and consumer. Analysis of a price system as a means to efficient allocation of productive resources. Offered for undergraduate credit only. Offered Every Term.
Prerequisites: ECO 2010 with a minimum grade of C and MAT 1500-6XXX with a minimum grade of C

ECO 5020 Fundamentals of Economic Analysis I Cr. 4
This course assumes good knowledge of first semester calculus, and teaches additional mathematics necessary for Ph.D. study in economics, and (to a lesser extent) teaches some economic implications; course content includes: matrices, vectors and linear algebra; partial and total derivatives; scalar and vector functions; Jacobian derivative matrices and determinants; implicit function theorem; derivatives of implicit functions with one or more endogenous variables; unconstrained maximization with two or more variables; Lagrangians and constrained maximization; envelope theorem; differential and difference equations, and systems of differential and difference equations. Offered for undergraduate credit only. Offered Fall.
Prerequisites: ECO 5000 with a minimum grade of C and MAT 2010-6XXX with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students.

ECO 5030 Microeconomic Theory Cr. 4
Theory of choice, theory of cost and production, theory of the competitive form. Price and output in non-competitive markets, general competitive equilibrium and welfare economics. Offered Yearly.
Prerequisites: MAT 2010 with a minimum grade of C- or MAT 5010 with a minimum grade of C- and MAT 2020 with a minimum grade of C- and ECO 5000 with a minimum grade of C- and ECO 5020 with a minimum grade of C-
Restriction(s): Enrollment is limited to Undergraduate level students.

ECO 5050 Intermediate Macroeconomics Cr. 4
Theory of national income determination. National output and income, saving and capital formation. Offered for undergraduate credit only. Offered Every Term.
Prerequisites: MAT 1500-6XXX with a minimum grade of C and ECO 2020 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students.

ECO 5100 Introductory Statistics and Econometrics Cr. 4
Elementary probability theory, discrete and continuous probability distribution, sampling distribution, interval estimation, hypothesis testing, and estimation and inference in simple and multiple regression models. Offered for undergraduate credit only. Offered Every Term.
Prerequisites: ECO 2010 with a minimum grade of C and ECO 2020 with a minimum grade of C and MAT 1500-6XXX with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students.

ECO 5200 Regulation and Regulated Industries Cr. 4
Transportation economics. Regulation of transportation as an example of public control of business; the rationale for having public regulation, and the analysis of its economic effects; reform of the scope and practice of regulation; public ownership; regulation of occupational and product safety standards and environmental standards. Offered for undergraduate credit only. Offered Yearly.
Prerequisites: ECO 2010 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students.

ECO 5210 Market Power and Economic Welfare Cr. 4
Monopoly, oligopoly, and competition in U.S. industry; sources of market power and their effect on prices, profits, and technological progress. Case studies. Selected topics in antitrust policy. Offered for undergraduate credit only. Offered Yearly.
Prerequisites: MAT 1500 with a minimum grade of C or MAT 1800 with a minimum grade of C or MAT 2010 with a minimum grade of C and ECO 2010 with a minimum grade of C and ECO 5000 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students.

ECO 5230 Environmental Economics Cr. 4
Externalities as the cause of environmental degradation and climate change. Externality in turn results from the failure of the market to develop prices that reflect the full global cost of production and consumption. The course also pays attention to normative issues. The population over which the normative issues are defined may include animals, plants and inanimate objects. Behavioral economics, in particular, will be brought to bear on the discussion throughout the course. Offered Fall, Winter.
Prerequisites: ECO 1000 with a minimum grade of D- or ECO 2010 with a minimum grade of D-

ECO 5250 Economic Analysis of Law Cr. 4
Economic analysis of property rights, torts, contracts, criminal law, the law of business organizations and financial markets, and the law of taxation. Economic analysis of litigation; the use of economics and statistics in litigation. Offered for undergraduate credit only. Offered Yearly.
Prerequisites: ECO 2010 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students.

ECO 5270 Games of Strategy Cr. 4
Game theory studies how individuals, groups and firms make their decisions strategically when their actions affect each other. Introductory course with emphasis on applications to firms and markets. Standard concepts such as games with sequential moves, simultaneous moves, pure and mixed strategies, uncertainty, and repetition. Special topics include bargaining, strategic innovation, cooperative pricing, contract designs, incentive mechanisms, bidding, and auctions. Students do not need to know calculus to follow the lectures. Offered for undergraduate credit only. Offered Yearly.
Prerequisites: MAT 1500 with a minimum grade of C or MAT 1800 with a minimum grade of C or MAT 2010 with a minimum grade of C and ECO 2010 with a minimum grade of C and ECO 5000 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students.

ECO 5300 International Trade Cr. 4
Factors in international relations; patterns of international specialization; balance of international payments; foreign exchange; commercial policy of United States and other countries; foreign investment and economic development; international economic cooperation. Offered for undergraduate credit only. Offered Fall.
Prerequisites: ECO 5000 with a minimum grade of C and ECO 2010 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students.

ECO 5310 International Finance Cr. 4
Major policy issues in the field of international finance with emphasis on open economy macroeconomics. Topics include the balance of payments and the foreign exchange market; monetary and fiscal policies in open economies; the floating exchange rate system; international financial markets; and European monetary integration. Offered for undergraduate credit only. Offered Winter.
Prerequisites: MAT 1500 with a minimum grade of C or MAT 1800 with a minimum grade of C and ECO 2020 with a minimum grade of C and ECO 5050 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students.

ECO 5400 Labor Economics Cr. 4
Economics of labor markets. Determinants of earnings and methods of compensation, labor supply and demand, effects of taxes and subsidies on labor supply, choices of occupation and level of schooling, promotion and turnover, employment discrimination, economics of crime and punishment, regulation of professions, unions. Offered for undergraduate credit only. Offered Fall, Winter.
Prerequisites: ECO 2010 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment is limited to students with a major in Labor Studies.

ECO 5480 Economics of Work Cr. 3
Theoretical and empirical treatment of: labor market characteristics; labor demand and supply; issues of race, gender, and age; compensation and pay; issues of health and productivity; bargaining processes and the effects of unions; unemployment and job search; globalization. No economics major or minor credit. Offered Yearly.
Prerequisites: ECO 2010 with a minimum grade of C or ECO 2020 with a minimum grade of C or ECO 1000 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the BA in Labor Studies program.

ECO 5490 American Labor History Cr. 4
Development of the American labor movement; its behavior in the contemporary scene. Labor's experiments with social, political, legal, and economic institutions. Comparisons with foreign labor movements. Offered for undergraduate credit only. Offered Every Other Year.
Prerequisites: ECO 2010 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students.
Equivalent: HIS 5290

ECO 5500 Public Finance Cr. 4
Role of government in a market economy: sources of market failure; public goods and externalities; principles of taxation and expenditures; tax incidence; federal tax structure; selected government expenditure programs. Offered for undergraduate credit only. Offered Fall, Spring/Summer.
Prerequisites: ECO 2010 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students.

ECO 5520 State and Local Public Finance Cr. 4
Theory and practice of state and local government taxation and expenditure. Attention devoted to State of Michigan and municipalities in Detroit metropolitan area. Topics include: government organization, voting and mobility models, property and sales taxes, user charges, grants, education expenditure, and economic development. Offered for undergraduate credit only. Offered Yearly.
Prerequisites: ECO 2010 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students.

ECO 5550 Economics of Health Care Cr. 4
Allocation of health care resources, with respect to demand and supply of health care. Role of hospitals, physicians, and health insurance; market imperfections and their role in the economics of health care. Offered for undergraduate credit only. Offered Yearly.
Prerequisites: ECO 2010 with a minimum grade of C

ECO 5600 Introduction to Development Economics Cr. 4
National poverty and economic growth viewed from a historical and theoretical perspective; particular emphasis on national and international policies. Offered for undergraduate credit only. Offered Yearly.
Prerequisites: ECO 2010 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students.

ECO 5700 Money and Banking Cr. 4
Role of the Federal Reserve System, the commercial banks, and the non-bank public (including financial intermediaries) in determining the money supply; central banking and techniques of monetary control; indicators and targets of monetary policy; and how money affects economic activity. Offered Fall, Winter.
Prerequisites: MAT 1500 with a minimum grade of C or MAT 1800 with a minimum grade of C and ECO 2020 with a minimum grade of C and ECO 5050 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students.

ECO 5720 Financial Economics Cr. 4
Fundamentals of investments: investment and financial markets, theoretical models of investment theory including efficient market hypothesis (EMH) and capital asset pricing model (CAPM); characteristics and analysis of stocks, bonds, and portfolios; equity evaluation through financial statements, industry analysis, and macroeconomic analysis; and advanced topics in either derivative assets (futures and options) or international investments. Offered for undergraduate credit only. Offered Winter.
Prerequisites: ECO 2010 with a minimum grade of C and ECO 2020 with a minimum grade of C and ECO 5050 with a minimum grade of C and MAT 1500-6XXX with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students.

ECO 5800 Urban and Regional Economics Cr. 4
Introduction to the economic foundations of urban problems; land use, housing, poverty, transportation, local public finance; regional industry mix, income, growth and development; the national system of cities and location of firms. Offered for undergraduate credit only. Offered Yearly.
Prerequisites: ECO 2010 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students.
Equivalent: UP 5820

ECO 5993 Writing Intensive Course in Economics Cr. 0
Satisfies General Education Requirement: Writing Intensive Competency Disciplinary writing assignments under the direction of a faculty member. Satisfies the University General Education Writing Intensive Course in the Major requirement. Required for all majors. Offered Every Term.
Prerequisites: May be taken concurrently: ECO 5000-9999 with a minimum grade of C-
Restriction(s): Enrollment is limited to Undergraduate level students.

ECO 6000 Price and Allocation Theory Cr. 4
Introduction to the theory of consumer choice and the theory of production, and other selected topics. Primarily for M.A. students and for Ph.D. students who want to review. Offered Fall.
Prerequisite: ECO 5000 with a minimum grade of C and MAT 2010 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate or Undergraduate level students; enrollment limited to students with a class of Junior or Senior.

ECO 6050 Macroeconomics Cr. 4
Determination of national income, unemployment and interest rates; theories of inflation; effectiveness of macroeconomic public policies. Primarily for M.A. students and for Ph.D. students who want to review. No credit after ECO 7050. Offered Winter.
Prerequisite: ECO 5050 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

ECO 6100 Introduction to Econometrics Cr. 4
Basic statistics, basic probability, hypothesis testing, and bivariate and multivariate regression analysis. Estimators studied are least squares, maximum likelihood and generalized least squares. Various model specification issues addressed: omitted variables, extraneous variables, category variables, multicollinearity, heteroscedasticity, and autocorrelation. Offered Fall.
Prerequisite: ECO 5100 and MAT 2010
Restriction(s): Enrollment is limited to Graduate or Undergraduate level students.

ECO 6200 Advanced Regulation and Regulated Industries Cr. 4
Transportation economics. Regulation of transportation as an example of public control of business; the rationale for having public regulation, and the analysis of its economic effects; reform of the scope and practice of regulation; public ownership; regulation of occupational and product safety standards and environmental standards. No credit after ECO 5200. Offered for graduate credit only. Offered Yearly.
Prerequisite: ECO 5000 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

ECO 6210 Advanced Market Power and Economic Welfare Cr. 4
Monopoly, oligopoly, and competition in U.S. industry; sources of market power and their effect on prices, profits, and technological progress. Case studies. Selected topics in antitrust policy. No credit after ECO 5210. Offered for graduate credit only. Offered Yearly.
Prerequisite: ECO 5000 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

ECO 6250 Advanced Economic Analysis of Law Cr. 4
Economic analysis of property rights, torts, contracts, criminal law, the law of business organizations and financial markets, and the law of taxation. Economic analysis of litigation; the use of economics and statistics in litigation. Advanced mathematical analysis of selected topics. No credit after ECO 5250. Offered for graduate credit only. Offered Yearly.
Prerequisite: ECO 5000 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

ECO 6300 Advanced International Trade Cr. 4
Factors in international relations; patterns of international specialization; balance of international payments; foreign exchange; commercial policy of United States and other countries; foreign investment and economic development; international economic cooperation. Advanced mathematical analysis of selected topics. No credit after ECO 5300. Offered for graduate credit only. Offered Yearly.
Prerequisite: ECO 5000 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

ECO 6310 Advanced International Finance Cr. 4
Major policy issues in the field of international finance with emphasis on open economy macroeconomics. Topics include the balance of payments and the foreign exchange market; monetary and fiscal policies in open economies; the floating exchange rate system; international financial markets; and European monetary integration. Advanced mathematical analysis of selected topics. No credit after ECO 5310. Offered for graduate credit only. Offered Yearly.
Prerequisite: ECO 5000 with a minimum grade of C and ECO 5050 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

ECO 6400 Advanced Labor Economics Cr. 4
Economics of labor markets. Determinants of earnings and methods of compensation, labor supply and demand, effects of taxes and subsidies on labor supply, choices of occupation and level of schooling, promotion and turnover, employment discrimination, economics of crime and punishment, regulation of professions, unions. Advanced mathematical analysis of selected topics. No credit after ECO 5400. Offered for graduate credit only. Offered Yearly.
Prerequisite: ECO 5000 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

ECO 6415 Advanced Economics of Race and Gender Cr. 4
Theory and empirical evidence of race and gender differentials in the labor market. Topics include the difference in occupations and earnings, discrimination, poverty, and public policies. Advanced mathematical analysis of selected topics. No credit after ECO 5410. Offered for graduate credit only. Offered Yearly.
Prerequisite: ECO 5000 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

ECO 6420 Labor Relations and Public Policy Cr. 3
Overview of labor force trends; U.S. unionism; management of labor relations; collective bargaining: procedure and substance; bargaining power in the private and public sectors. Comparative trends and principles in industrial relations systems of other societies also examined. Offered for graduate credit only. Offered Fall, Spring/Summer.
Prerequisite: ECO 2010 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

ECO 6455 Discrimination and Fair Housing Cr. 3
Multidisciplinary investigation into the nature, motivations, consequences, and legal/public policy implications of racial/ethnic discrimination in housing and related markets in U.S. metropolitan areas. Offered Intermittently.
Equivalent: AFS 6455, PS 6455, SOC 6455, UP 6455, US 6455

ECO 6480 Advanced Economics of Work Cr. 3
Theoretical and empirical treatment of: labor market characteristics; labor demand and supply; issues of race, gender, and age; compensation and pay; issues of health and productivity; bargaining processes and the effects of unions; unemployment and job search; globalization. Offered for graduate credit only. Offered Yearly.
Prerequisite: ECO 2010 with a minimum grade of C
Restriction(s): Enrollment limited to students in the MA in Employ & Labor Relations program.

ECO 6510 Advanced Public Finance Cr. 4
Role of government in a market economy: sources of market failure--public goods and externalities; principles of taxation and expenditures; tax incidence; federal tax structure; selected government expenditure programs. Advanced mathematical analysis of selected topics. No credit after ECO 5500. Offered for graduate credit only. Offered Yearly.
Prerequisite: ECO 5000 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

ECO 6520 Advanced State and Local Public Finance Cr. 4
Theory and practice of state and local government taxation and expenditure. Attention devoted to State of Michigan and municipalities in Detroit metropolitan area. Topics include: government organization, voting and mobility models, property and sales taxes, user charges, grants, education expenditure, and economic development. Advanced mathematical analysis of selected topics. No credit after ECO 5520. Offered for graduate credit only. Offered Yearly.
Prerequisite: ECO 5000 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: UP 6750

ECO 6550 Advanced Economics of Health Care Cr. 4
Allocation of health care resources, with respect to demand and supply of health care. Roles of hospitals, physicians, and health insurance; market imperfections and their role in the economics of health care. Advanced mathematical analysis of selected topics. No credit after ECO 5550. Offered for graduate credit only. Offered Yearly.
Prerequisite: ECO 5000 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

ECO 6600 Advanced Development Economics Cr. 4
National poverty and economic growth viewed from a historical and theoretical perspective; particular emphasis on national and international policies. Advanced mathematical analysis of selected topics. No credit after ECO 5600. Offered for graduate credit only. Offered Yearly.
Prerequisite: ECO 5000 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

ECO 6650 Regional, State, and Urban Economic Development: Policy and Administration Cr. 3
Examination of regional, state, and local economic development theory, analysis, policy and administration. Offered for graduate credit only. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: PS 6440, UP 6550

ECO 6700 Advanced Money and Banking Cr. 4
Role of the Federal Reserve System, the commercial banks, and the non-bank public (including financial intermediaries) in determining the money supply; central banking and techniques of monetary control; indicators and targets of monetary policy; and how money affects economic activity. Advanced mathematical analysis of selected topics. Offered for graduate credit only. Offered Yearly.
Prerequisite: ECO 2020 with a minimum grade of C and ECO 5050 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

ECO 6800 Advanced Urban and Regional Economics Cr. 4
Introduction to the economic foundations of urban problems; land use, housing, poverty, transportation, local public finance; regional industry mix, income, growth and development; the national system of cities and location of firms. Advanced mathematical analysis of selected topics. No credit after ECO 5800. Offered for graduate credit only. Offered Yearly.
Prerequisite: ECO 5000 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

ECO 7000 Microeconomic Theory I Cr. 4
Theory of choice; theory of cost and production; theory of the competitive firm. Price and output in non-competitive markets. General competitive equilibrium and welfare economics. Offered Winter.
Prerequisite: ECO 5000 with a minimum grade of C and ECO 7020 with a minimum grade of C and MAT 2010 with a minimum grade of C and MAT 2020 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Economics.

ECO 7010 Microeconomic Theory II Cr. 4
Continuation of ECO 7000. Includes general equilibrium analysis and game theory. Offered Fall.
Prerequisite: ECO 7000 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Economics.

ECO 7020 Fundamentals of Economic Analysis I Cr. 4
This course assumes sound knowledge of first and second semester calculus, and teaches additional mathematics necessary for Ph.D. study in economics, and covers additional mathematics necessary for Ph.D. study in mathematics, and to a lesser extent some economic implications. Course content includes: matrices, vectors and linear algebra; partial and total derivatives; scalar and vector functions; Jacobian derivative matrices and determinants; implicit function theorem; derivatives of implicit functions with one or more endogenous variables; unconstrained maximization with two or more variables; Lagrangians and constrained maximization; envelope theorem; differential and difference equations, and systems of differential and difference equations. Offered for graduate credit only. Offered Fall.
Prerequisite: MAT 2010 with a minimum grade of C and ECO 5000 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Economics.

ECO 7021 Fundamentals of Economic Analysis II Cr. 4
Mathematical methods specific to macroeconomics and econometrics. Applications of matrix operations, distribution functions, estimation methods, difference equations, differential equations, inter-temporal optimization, calculus of variations, control theory. Offered Fall.
Prerequisite: MAT 2020 with a minimum grade of C and ECO 5000 with a minimum grade of C
Corequisite: ECO 7020
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Economics.

ECO 7050 Macroeconomic Theory I Cr. 4
Determination of national income, employment, interest rates and the price level; static and dynamic models; cycle and growth models; classic, Keynesian and neo-Keynesian models. Offered Winter.
Prerequisite: ECO 5050 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Economics.

ECO 7060 Macroeconomic Theory II Cr. 4
Mathematical and statistical methods: differential and difference analysis. Intertemporal economic theory: the household, the firm, and economic growth. Overlapping generations models and the Ricardian theory of government finance. Theories of the business cycle: real business cycle models, Keynesian and New Classical theories of the business cycle. Offered Fall.
Prerequisite: ECO 7050 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Economics.

ECO 7100 Econometrics I Cr. 4
Probability and statistics: moment generating functions, common families of statistical distributions, multiple random variables and properties of a random sample. Estimation and hypothesis testing: method of moments, generalized method of moments, maximum likelihood estimators, instrumental variable estimators, Bayes estimators, likelihood ratio tests, finite sample properties and asymptotic properties of OLS. Offered Fall.
Prerequisite: ECO 6100 with a minimum grade of C and ECO 7020 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Economics.

ECO 7110 Econometrics II Cr. 4
Modeling and estimation: generalized least squares, panel data models (fixed effects and random effects), system of equations (endogeneity, identification), models with discrete dependent variables (probit, logit), models with limited dependent variables (truncation, censoring), stationary time-series (ARMA), vector-autoregression (VAR, VMA), non-stationary time-series (unit roots, cointegration). Offered Winter.
Prerequisite: ECO 7100 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Economics.

ECO 7120 Econometrics III Cr. 4
Advanced economic techniques in microeconomics and macroeconomics. In the first half of the course, emphasis on specification, estimation, interpretation, and testing of microeconomic models. The second half will cover statistical models for the analysis of economic time series data, with applications in macroeconomics and finance. Offered Yearly.
Prerequisite: ECO 7100 with a minimum grade of C and ECO 7110 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Economics.

ECO 7200 Industrial Organization I Cr. 4
Theories of competition and market power. Topics include concentration, scale economies, product differentiation, entry barriers, collusion, mergers, price discrimination, information, and advertising. Offered Every Other Year.
Prerequisite: ECO 6000 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Economics.

ECO 7210 Industrial Organization II Cr. 4
Economic analysis of antitrust policy and public regulation of industry. Rationale for regulation and mandates of various regulatory agencies. Problems in public utility rate-making. Misallocations induced by regulation. Role of competition in regulated industries. Offered Every Other Year.
Prerequisite: ECO 6000 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Economics.

ECO 7300 International Trade Theory Cr. 4
Classical and modern models of the determinants of international trade and their empirical verification; impact of trade on earnings of production factors; economic analysis of various trade policy instruments; strategic trade policy; economic analysis of international trade rules and institutions; political economy of trade policy. Offered Every Other Year.
Prerequisite: ECO 6000 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Economics.

ECO 7310 International Monetary Theory Cr. 4
Foreign exchange rate and balance of payments adjustment theory under alternative exchange rate regimes; stabilization policies in open economies; financial capital movements; monetary unions; economic growth and the balance of payments. Offered Every Other Year.
Prerequisite: ECO 6050 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Economics.

ECO 7400 Labor Economics and Human Resources Cr. 4
Labor force participation and composition; factors affecting wage levels (money and real) and wage structure. Theoretical and empirical analyses of occupational choice, labor mobility,promotion, turnover, unemployment, the effects of taxation, retirement and income inequality. Offered Every Other Year.
Prerequisite: ECO 6000 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Economics.

ECO 7410 Economics of Human Resources Cr. 4
Theoretical and empirical analyses of labor supply and family allocation of time; the return to education; role of general and firm-specific human capital and job mobility in wage growth over a career; race and gender differences in the labor market; intergenerational transfers and mobility. Offered Every Other Year.
Prerequisite: ECO 6000 with a minimum grade of C and ECO 6100 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Economics.

ECO 7550 Economics of Health Care I Cr. 4
Basic introduction to health care economics including allocation of health care resources, economics of information, and the role of advertising. No credit after ECO 5550. Offered Every Other Winter.
Prerequisite: ECO 6000 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Economics.

ECO 7560 Economics of Health Care II Cr. 4
Particular roles of hospitals, physicians, and health insurance in the economy. Analysis of government policies. No credit after ECO 5550. Offered Every Other Year.
Prerequisite: ECO 6000 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Economics.

ECO 7996 Research in Economics Cr. 2-8
Open to qualified students who desire opportunity for research and directed study. May be conducted as seminar. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Economics.
Repeatable for 16 Credits

ECO 9990 Pre-Doctoral Candidacy Research Cr. 1-8
Research in preparation for doctoral dissertation. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 12 Credits

ECO 9991 Doctoral Candidate Status I: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.

ECO 9992 Doctoral Candidate Status II: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: ECO 9991 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

ECO 9993 Doctoral Candidate Status III: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: ECO 9992 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

ECO 9994 Doctoral Candidate Status IV: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: ECO 9993 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

ECO 9995 Candidate Maintenance Status: Doctoral Dissertation Research and Direction Cr. 0
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $370.26
Repeatable for 0 Credits

ED - EDUCATION

ED 3990 Directed Study Cr. 1-6
Offered Every Term.
Repeatable for 6 Credits

ED 5998 Field Studies Cr. 1-8
Supervised professional study in field settings. Offered Every Term.
Repeatable for 8 Credits

ED 7990 Directed Study Cr. 1-8
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 8 Credits

ED 7996 Directed Research Cr. 1-8
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 16 Credits

ED 7998 Field Studies Cr. 1-8
Supervised professional study in field situations. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 16 Credits

ED 7999 Terminal Master's Seminar and Essay or Project Cr. 3
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students with a class of Candidate Masters.

ED 8999 Master's Thesis Research and Seminar Cr. 1-8
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students with a class of Candidate Masters.
Repeatable for 8 Credits

ED 9989 Doctoral Dissertation Research and Direction Cr. 1-16
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 30 Credits

ED 9990 Pre-Doctoral Candidacy Research Cr. 1-8
Research in preparation for doctoral dissertation. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 12 Credits

ED 9991 Doctoral Candidate Status I: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students with a class of Doctoral Candidate.

ED 9992 Doctoral Candidate Status II: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: ED 9991 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

ED 9993 Doctoral Candidate Status III: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: ED 9992 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

ED 9994 Doctoral Candidate Status IV: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: ED 9993 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

ED 9995 Candidate Maintenance Status: Doctoral Dissertation Research and Direction Cr. 0
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $370.26
Repeatable for 0 Credits

EDA - EDUCATIONAL ADMINISTRATION

EDA 7600 The Structure of American Education Cr. 2
Major organizational, financial, administrative, legal and extra-legal problems affecting public education in the United States. Role of the educator in effecting change. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.

EDA 7625 Leadership, Administration and the Principalship Cr. 4
Provides a conceptual framework of the administrative process; examines interrelationships between the person, the job, the organizational setting, and the wider social context of education; examines the ways in which political, social and economic factors influence administrative decision making and leadership. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.

EDA 7640 The Elementary School Principalship Cr. 4
For experienced teachers and administrators entering the field of elementary school administration. Research findings and sources of information in the field. The principal's role in instructional leadership. A concurrent field experience is required with the lecture component of this course; specifications are provided in the course syllabus. Offered Winter, Spring/Summer.
Restriction(s): Enrollment is limited to Graduate level students.

EDA 7650 Secondary School Administration Cr. 4
Organization and administration of middle, junior and senior high schools. Analysis of administrative problems relating to curriculum improvement, staff personnel, guidance, instruction, school-community relations, and student activities. A concurrent field experience is required with the lecture component of this course; specifications are provided in the course syllabus. Offered Fall, Spring/Summer.
Restriction(s): Enrollment is limited to Graduate level students.

EDA 7660 Administrative Leadership in School-Community Relations and Public Relations Cr. 3
Relationships between the school and the community; special reference to social change, community needs and the total school program; demographic and public relations techniques for school improvement, program development in special area, and millage campaigns in the context of the structure, function, and organization of the total educational system in a multicultural and pluralistic society. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.

EDA 7670 Economic Issues in Education Cr. 4
Economic issues in education at the local, intermediate, state, and federal levels. Offered Winter, Spring/Summer.
Restriction(s): Enrollment is limited to Graduate level students.

EDA 7675 Public School Finance and Budgeting Cr. 4
Elementary and secondary public school finance and budgeting: legal foundations of school funding, how revenue is raised and distributed by states, the ways resources are allocated at the local district and school levels. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Graduate level students.

EDA 7690 Introduction to Michigan School Law Cr. 4
Constitutional and legal factors affecting Michigan public education. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.

EDA 7800 Administration and Supervision of Special Education Cr. 4
Professional problems; standards and procedures; references to history, development, philosophy, legal provisions, rules and regulations; major developments and trends at federal, state and local levels; services of other organizations and agencies. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.

EDA 7810 Michigan Special Education Law Cr. 4
Implications of statutes and regulations undergirding the education of the handicapped; educator's role in implementing, monitoring and influencing state and federal mandates for special education. Offered Winter.
Prerequisite: EDA 7800 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

EDA 7820 Emergent Policies in Special Education Administration Cr. 2
Discussion of research and literature relating to changing and emergent policies. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.

EDA 7830 Practicum in Special Education Administration and Supervision Cr. 3-6
Supervised field-based experiences or individualized and contracted plan of supervised field study for special education administrators, curriculum resource consultants, supervisors, administrative consultants, and project directors. Multi-level practicum sites arranged. Offered Every Term.
Prerequisite: EDA 7800 with a minimum grade of C and EDA 7810 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 6 Credits

EDA 8620 School Personnel Administration Cr. 4
Analysis of the personnel function in educational administration. Offered Fall, Spring/Summer.
Restriction(s): Enrollment is limited to Graduate level students.

EDA 8630 Supervision Cr. 4
Basic issues in motivation, job satisfaction, and goal attainment in educational and human service organizations. Establishing productive supervisor/staff relations. Monitoring employee performance. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Graduate level students.

EDA 8650 Staff Development and School Improvement Cr. 2-6
A clinical experience in planning, design, and implementation of in-service and of staff development programs. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 6 Credits

EDA 8710 Readings in General Administration Cr. 4
Directed readings in the principles underlying administration in education, government, business and social agencies and other major areas. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students.

EDA 8990 Internship in Administration Cr. 1-8
Supervised experience in administration of public education, government, business, and social agencies. Internship in cooperating school system. Includes seminar. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 8 Credits

EDA 9790 Doctoral Seminar in Educational Administration Cr. 3
Seminar, lecture, discussion. Purposes of education as defined in federal and state constitutions, statutes and administrative rules; interpretation of policy statements of organizations and commissions. Role of the educational leader in our society. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students.

EDP - EDUCATIONAL PSYCHOLOGY

EDP 1000 Psychology of Human Happiness Cr. 3
Teaches students the underlying science and psychology of living a more satisfying and fulfilling life. This includes teaching students how to apply cutting edge findings in psychological science in their own personal and professional lives. Offered Every Term.

EDP 3101 Introduction to Applied Behavior Analysis Cr. 4
Students will become familiar with techniques used in implementing Applied Behavior Analysis with people with special needs including Autism. Offered Fall.
Prerequisites: May be taken concurrently: EDP 3104

EDP 3102 Techniques of Applied Behavior Analysis Cr. 4
Students will expand their knowledge of techniques used in implementing Applied Behavior Analysis with people with special needs including Autism. Advanced topics of Behavior Analysis will be taught. Offered Winter.
Prerequisites: May be taken concurrently: EDP 3105 and EDP 3101 with a minimum grade of D-

EDP 3103 Applied Behavior Analysis Assessment and Treatment Planning Cr. 4
Students will learn various assessment and treatment planning techniques utilized in Applied Behavior Analysis. Offered Spring/Summer.
Prerequisites: EDP 3102 with a minimum grade of D- and May be taken concurrently: EDP 3106

EDP 3104 Field Experience in Applied Behavior Analysis I Cr. 2
Accompanies in EDP 3101 - Introduction to Applied Behavior Analysis and exposes students to observation experiences of working with persons with Autism. Offered Fall.
Prerequisites: May be taken concurrently: EDP 3101

EDP 3105 Field Experience in Applied Behavior Analysis II Cr. 2
Accompanies EDP 3102 - Applied Behavior Analysis 2 and provides students beginning opportunities to work within the ABA model with persons with Autism. Offered Winter.
Prerequisites: May be taken concurrently: EDP 3102

EDP 3106 Field Experience in Applied Behavior Analysis III Cr. 2
Accompanies EDP 3103 - Applied Behavior Analysis Assessment and Treatment Planning and provides students increasing independence in assessing and treating persons with Autism within the ABA model. Offered Spring/Summer.
Prerequisites: May be taken concurrently: EDP 3103

EDP 3310 Educational Psychology Cr. 3
Introductory course in educational psychology. Topics include, but are not limited to: child and adolescent development, cognitive and behavioral learning theories, information processing, motivation and evaluation. Includes study of exceptional children and those with cultural differences. Offered Yearly.
Restriction(s): Enrollment limited to students in the College of Education.

EDP 5450 Child Psychology Cr. 2-3
Basic concepts, research findings and problems regarding child, pre-adolescent and early adolescent developmental needs as they apply to school and home environments; includes study of exceptional children and those with cultural differences. Offered Every Term.
Restriction(s): Enrollment limited to students in the College of Education.

EDP 5480 Adolescent Psychology Cr. 2-3
Basic concepts, research findings and problems regarding early adolescent and adolescent developmental needs as they apply to school and home environments; includes study of exceptional children and those with cultural differences. Offered Every Term.
Restriction(s): Enrollment limited to students in the College of Education.

EDP 6210 Foundations of Educational Psychology Cr. 3
Introduction to current issues in educational psychology. Topics include, but are not limited to: child and adolescent development, learning, motivation, information processing and evaluation. Includes study of the exceptional child and those with cultural differences. Offered Fall, Winter.

EDP 7101 Foundations of Applied Behavior Analysis Cr. 4
Principles and concepts of Applied Behavior Analysis (ABA); historical perspectives, fundamental vocabulary, philosophy, and methodology of the science of behavior management. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.

EDP 7102 Assessment Techniques in Applied Behavior Analysis Cr. 4
Overview of assessment techniques used in behavioral intervention planning, functional assessments, functional assessment interview, descriptive and functional analysis, data collection and interpretation, preference assessment, and interpretation of evaluation tools. Offered Yearly.
Prerequisite: EDP 7101 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

EDP 7103 Applied Behavior Analysis Treatment Planning Cr. 4
Techniques used in behavioral intervention planning, data collection, interpretation of assessments, development of goals and objectives, overview and application of treatment interventions, management, supervision, and team planning. Offered Yearly.
Prerequisite: EDP 7102 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

EDP 7104 Research Methods in Applied Behavior Analysis Cr. 3
Overview of research method techniques, theoretical foundations of empirical research, principles of the scientific method, experimental designs, analysis of research designs, research protocol, and formation of research hypothesis. Primary focus on single-case designs. Offered Yearly.
Prerequisite: EDP 7102 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

EDP 7105 Ethical Practice in Applied Behavior Analysis Cr. 3
Responsibility, values, ethics, and practice principles of the field of behavior analysis. Offered Yearly.
Prerequisite: EDP 7102 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

EDP 7106 Field Experience in Applied Behavior Analysis I Cr. 2
Students spend supervised time in the field practicing skills learned in the Board Certified Behavior Analyst (BCBA) course sequence. Students work directly with multiple children using a variety of applied behavior analysis techniques. Offered Yearly.
Prerequisite: EDP 7101 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

EDP 7107 Field Experience in Applied Behavior Analysis II Cr. 2
Students will spend supervised time in the field practicing skills learned in the BCBA (Board Certified Behavior Analyst) course sequence. Students will work directly with multiple clients using a variety of Applied Behavior Analysis techniques. Specific focus on supervised one on one behavioral intervention work with children. Offered Spring/Summer.
Prerequisite: EDP 7102 (may be taken concurrently) with a minimum grade of C and EDP 7104 (may be taken concurrently) with a minimum grade of C and EDP 7106 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

EDP 7108 Field Experience in Applied Behavior Analysis III Cr. 2
Students will spend supervised time in the field practicing skills learned in the BCBA (Board Certified Behavior Analyst) course sequence. Students will work directly with multiple clients using a variety of Applied Behavior Analysis techniques. Specific focus on supervised one on one behavioral intervention work with children. Offered Fall.
Prerequisite: EDP 7107 with a minimum grade of C
Corequisite: EDP 7103
Restriction(s): Enrollment is limited to Graduate level students.

EDP 7109 Field Experience in Applied Behavior Analysis IV Cr. 2
Students will spend supervised time in the field practicing skills learned in the BCBA (Board Certified Behavior Analyst) course sequence. Students will work directly with multiple clients and staff using a variety of Applied Behavior Analysis techniques. Students will begin to be independent in their training and provide supervision to parents and technicians with feedback from their site supervisor. They also begin to focus on behavior analytic techniques targeted toward the caregivers and coordination of care with outside providers. Offered Winter.
Prerequisite: EDP 7108 with a minimum grade of C
Corequisite: EDP 7111
Restriction(s): Enrollment is limited to Graduate level students.

EDP 7110 Field Experience in Applied Behavior Analysis V Cr. 2
Students will spend supervised time in the field practicing skills learned in the BCBA (Board Certified Behavior Analyst) course sequence. Students will work directly with multiple clients and staff using a variety of Applied Behavior Analysis techniques. The highest level of independent behavioral intervention work including managing all necessary assessment, treatment, case management, and intervention training and supervision of parents and technicians is expected in this semester. Offered Winter.
Prerequisite: EDP 7109 with a minimum grade of C
Corequisite: EDP 7105
Restriction(s): Enrollment is limited to Graduate level students.

EDP 7111 Advanced Applied Behavior Analysis Treatment Planning Cr. 4
Overview of research method techniques, theoretical foundations of empirical research, principles of the scientific method, experimental designs, analysis of research designs, research protocol, and formation of research hypothesis. Primary focus on single-case designs. Offered Spring/Summer.
Prerequisite: EDP 7103 with a minimum grade of C
Corequisite: EDP 7109
Restriction(s): Enrollment is limited to Graduate level students.

EDP 7190 Couples Therapy Cr. 3
An introduction to the research, theories, skills and assessments related to couples therapy. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Counseling Psychology or School and Community Psycholog; enrollment limited to students in a Education Specialist Cert or Master of Arts degrees.

EDP 7200 Systemic Theories and Family Therapy Cr. 3
Survey of systemic theories and family systems therapy. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students.

EDP 7220 Psychotherapy with Children and Adolescents Cr. 4
Theory of psychotherapy, including stages of therapy, issues of therapy, and techniques of therapy with children and adolescents. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Counseling Psychology or School and Community Psycholog; enrollment limited to students in a Education Specialist Cert or Master of Arts degrees.

EDP 7240 Systems of Psychotherapy Cr. 3
Survey and synthesis of leading systems of psychotherapies and interventions. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Counseling Psychology or School and Community Psycholog; enrollment limited to students in a Education Specialist Cert or Master of Arts degrees.

EDP 7260 School-Based Consultation and Intervention Cr. 3
Consultation; academic and psychotherapeutic interventions. Emphasis on practical skills needed to work directly or indirectly with individuals and groups in the school setting. Offered Winter.
Prerequisite: EDP 7220 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

EDP 7300 Ethics, Standards, and the Practice of Psychology Cr. 4
Legal, ethical, and professional issues confronting the practitioner. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in School and Community Psycholog; enrollment limited to students in a Education Specialist Cert or Master of Arts degrees.

EDP 7310 Psychology of Learning Across Development Cr. 3
Course blends a selection of human development and learning theories and concepts; emphasizes application to various professional contexts, e.g., community, health, business, school, and other organizational settings; focus is on late adolescence (ages 18-22) and adulthood. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: HE 7310

EDP 7350 The Learning Process Cr. 2-3
Substantive issues involved in learning as they relate to school practice. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.

EDP 7370 Adult Psychopathology Cr. 3
Psychopathology of adulthood; mental disorders, treatment and diagnosis. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.

EDP 7400 Foundations of Social Psychology Cr. 3
Systematic study of social psychology; implications for research and applied settings. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.

EDP 7410 Human Developmental Psychology Cr. 3-4
Survey of research from psychoanalytic and learning viewpoints on human development from birth to adulthood. Emphasis on school environment and community psychology practice. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Graduate level students.

EDP 7420 Introduction to Behavioral Psychology Cr. 4
Basic principles and theories of behavioral psychology. Theoretical aspects of both operant and respondent conditioning. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.

EDP 7430 Applications I: Behavioral Psychology and Social Learning Cr. 4
Behavioral techniques used in dealing with the social behavior of both groups and individuals. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students.

EDP 7480 Psychological Tests and Measurement Cr. 3
Overview of psychometric theory and test construction. Methods of assessing various areas of psychological functioning including intelligence or cognitive abilities, achievement, aptitude, personality functioning and vocational interests. No credit after EDP 7490. Offered Fall, Spring/Summer.
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $25

EDP 7490 Psychological Evaluation I Cr. 1-3
History of testing, psychometric theory, and test construction concepts in depth. Students apply these concepts in administration, scoring, and interpretation of standardized measures of academic functioning. No credit after EDP 7480. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Counseling Psychology or School and Community Psycholog.
Course Material Fees: $100

EDP 7520 Professional Ethics and Standards for Psychologists Cr. 3
An overview of scientific and professional ethics and standards related to the practice of psychology. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Counseling Psychology or School and Community Psycholog; enrollment limited to students in a Education Specialist Cert or Master of Arts degrees.

EDP 7561 Assessment of Cognitive Functioning Cr. 4
Theory, administration, scoring use, and interpretation of objective assessments of intelligence, achievement, perceptual function, and personality. Eight full administrations of one of the assessments: Binet, Wechsler, Bayley or McCarthy Scales. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major, minor, or concentration in Counseling Psychology or School and Community Psycholog; enrollment limited to students in a Education Specialist Cert or Master of Arts degrees.
Course Material Fees: $180

EDP 7562 Assessment of Personality and Social-emotional Functioning Cr. 4
Theory of personality development; administration, scoring, and interpretation of personality and social-emotional assessments; data integration and report writing. Offered Fall.
Prerequisite: EDP 7490 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major, minor, or concentration in Counseling Psychology or School and Community Psycholog.
Course Material Fees: $75

EDP 7563 Assessment of Academic Achievement Cr. 3
Students will administer, score, and interpret various academic achievement measures, integrate data and write instruction-driven reports, and communicate test results verbally. Offered Spring/Summer.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in School and Community Psycholog.

EDP 7564 Assessment and Intervention for Academic Learning Difficulties Cr. 4
Students will learn about typical development of academic skills, historical and current methods of Specific Learning Disabilities evaluation, and linking academic assessment data to academic interventions for all levels of learning difficulties; emphasis on reading. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $125

EDP 7610 Child and Adolescent Psychopathology Cr. 3
Study of theories of psychopathology in children and adolescents and the application to these theories to practice. Differential diagnosis using currently acceptable classification systems. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Counseling Psychology or School and Community Psycholog; enrollment limited to students in a Education Specialist Cert or Master of Arts degrees.

EDP 7996 Research in Educational Psychology Cr. 1-8
Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 8 Credits

EDP 8210 Fundamental Studies in Educational Psychology I: Learning Cr. 3
Issues and theories relevant to learning, perception, cognition, and motivation, as well as trends in research pertinent to the application of learning theory in education and in clinical practice. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Educational Psychology; enrollment limited to students in a Doctor of Education or Doctor of Philosophy degrees.

EDP 8230 Fundamental Studies in Educational Psychology II: Development Cr. 3
Contemporary theories and research in developmental psychology pertaining to research and practice in clinical and educational settings. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Educational Psychology; enrollment limited to students in a Doctor of Education or Doctor of Philosophy degrees.

EDP 8250 Fundamental Studies in Educational Psychology IV Cr. 3-9
Advanced study of a specific area in psychology with application to educational practice. Topics to be announced in Schedule of Classes . Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Educational Psychology; enrollment limited to students in a Doctor of Education or Doctor of Philosophy degrees.
Repeatable for 9 Credits

EDP 8318 Integrated Assessment Practicum Cr. 3
Building on prior assessment courses, in this practicum experience students will learn to integrate across assessment practices in the cognitive, visual-motor, adaptive behavior, academic achievement, and social-emotional-behavioral and personality domains. Emphasis will be on conceptualizing and conducting individual cases involving a variety of psycho-educational difficulties. Offered Fall.
Prerequisite: EDP 7563 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $100

EDP 8319 Pre-practicum in Clinical Procedures Cr. 1-8
Opportunity to provide psychological services (e.g., psychotherapy) to clients under supervision. Offered Winter.
Prerequisite: EDP 7240 (may be taken concurrently) with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Counseling Psychology.
Repeatable for 8 Credits

EDP 8320 Internship in Clinical Procedures I Cr. 1-8
Practicum in one of the organized health care settings cooperating with the University. Psychotherapy and psychological assessment with supervision of not less than two hours per week by a licensed psychologist at the cooperating site. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Counseling Psychology or School and Community Psycholog; enrollment limited to students in a Education Specialist Cert or Master of Arts degrees.
Repeatable for 8 Credits

EDP 8330 Practicum/Field Experience in School Psychology Cr. 1-8
Internship as a school psychologist in an approved school with school-age pupils. Interns under supervision of person holding Michigan School Psychologist Certificate. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in School and Community Psycholog; enrollment limited to students in a Education Specialist Cert or Master of Arts degrees.
Repeatable for 8 Credits

EDP 8360 Internship in School Psychology Cr. 1-8
Advanced internship as school psychologist for those holding a Preliminary School Psychologist Certificate. Internship in an approved school with school-age pupils; supervision by University faculty and person with Michigan School Psychologist Certificate. Offered Every Term.
Prerequisite: EDP 8330 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 8 Credits

EDP 9000 Doctoral Seminar in Counseling Psychology Cr. 3
The primary aim of this course is to offer a comprehensive review of counseling psychology as it relates to clinical practice, training and supervision, research, and advocacy. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.

EDP 9310 Doctoral Seminar in Educational Psychology Cr. 3
An examination of psychological concepts relevant to the development and carrying forward of the work of the schools. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.

EDP 9319 Advanced Practicum in Clinical Procedures Cr. 1-8
Practicum on campus or with a cooperating sites emphasizing advanced level skills in psychotherapy and psychological assessment, supervised a Licensed Psychologist and/or university faculty/staff. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major, minor, or concentration in Educational Psychology; enrollment limited to students in a Doctor of Education or Doctor of Philosophy degrees.
Repeatable for 8 Credits

EDP 9320 Internship in Clinical Procedures Cr. 1-8
Placement as a pre-doctoral psychology intern in appropriate organized health care setting under the supervision of a licensed psychologist. Offered Every Term.
Prerequisite: EDP 8320 with a minimum grade of C or EDP 8330 with a minimum grade of C or EDP 8340 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 8 Credits

EDS - EDUCATIONAL SOCIOLOGY

EDS 9620 Doctoral Seminar in Educational Sociology Cr. 3
Basic concepts of sociology applied to contemporary education. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.

EED - ENGLISH EDUCATION

EED 5200 Methods of Teaching English: Grades 7-12 Cr. 3
Introduction to the purposes and methods of teaching English composition and literature in grades seven through twelve. Offered Every Term.
Restriction(s): Enrollment limited to students in the College of Education.

EED 6120 English Composition in Secondary Schools Cr. 3
Analysis of modes of writing; relationship of grammar and composition; integration with literature and reading; approaches to group and individualized instruction; relation of composition to perception, cognition, critical thinking, motivation, and self-awareness. Offered Fall, Winter.
Restriction(s): Enrollment limited to students in the College of Education.

EED 6210 Language, Literacy, and Learning Cr. 3
Teaching of language, grammar, and usage in English language arts classrooms, based in sociocultural and sociolinguistic approaches to teaching literacy and language. Offered Fall, Winter.
Restriction(s): Enrollment limited to students in the College of Education.

EED 6310 Young Adult Literature Cr. 3
Standards for evaluating young adult literature. Selection of literature for individual students in relation to interest and reading ability. Use of classroom collections. Techniques for helping students read poetry, drama and fiction. Offered Every Term.
Equivalent: INF 6530

EED 6330 Teaching Literature in Secondary Schools Cr. 3
Structure of poetry, fiction and drama in relation to aesthetic, social, and psychological needs of secondary school students. Relationship of teaching methods to curriculum patterns. Offered Every Term.
Restriction(s): Enrollment limited to students in the College of Education.

EER - EDUCATIONAL EVALUATION AND RESEARCH

EER 1501 Quantitative and Qualitative Methodology Cr. 3
The rationale of quantitative methods applied to research design, sampling, instruments, and descriptive and inferential statistics via university supplied software; and qualitative methods for categorical data including nonrandom sampling, coding, and networks/displays. Applicable to all majors for solving real-world problems and defending the results. Offered Fall, Winter.

EER 4501 Quantitative and Qualitative Research, Measurement, and Program Evaluation Cr. 3
Provides an introduction to systematic disciplined inquiry and program evaluation. Topics in quantitative methods to be covered include : experimental, quasi-experimental, and survey research; instrument reliability and validity; descriptive and inferential statistics. Topics in qualitative methods to be covered include: grounded theory, ethnography, case study; trustworthiness, coding, and data networks/displays. Offered Fall, Winter.

EER 7610 Evaluation and Measurement Cr. 2-3
Principles and practices of evaluation and measurement with special focus on behavioral goals. Informal and formal evaluational strategies. Problems of self-evaluation. Logical, philosophical, and linguistic problems of evaluational methods and devices. Metrical analyses and standards. Innovations in educational assessment and accountability. Teacher-made tests. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.

EER 7630 Fundamentals of Statistics Cr. 3
Review of mathematics essential for statistics, sampling, computer use. Basic patterns of statistical inference, confidence estimation and significance testing regarding measures of averages, dispersion, correlation, and selected non-parametric statistics. One-way and two-way analysis of variance. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.

EER 7640 Fundamentals of Quantitative Research Cr. 3
Basic skills in educational research; nomenclature, problem, theory, hypothesis formulation; bibliographical and documentary techniques; retrieval systems; development of data-gathering instrumentation; computer orientation and research uses; collection and organization of data; manuscript development; report writing; techniques, methodologies for descriptive and experimental inquiry. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.

EER 7650 Computer Use in Research Cr. 3
Introduction to computer use in educational research with emphasis on using statistical packages (MIDAS and SPSS, BASIC programming language); writing statistical programs. Offered Every Term.
Prerequisite: EER 7630 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

EER 7870 Qualitative Research I: Introduction Cr. 3
Explores frameworks that inform what knowledge is and how it is produced. Review of validity, reliability, positionality, and ethics in qualitative research. Overview of major research designs (ethnography, grounded theory, phenomenology, case study, and narrative analysis). Offered Fall, Winter.
Restriction(s): Enrollment is limited to Graduate level students.

EER 7880 Fundamentals of Ethnographic Research Cr. 3
Collecting, analyzing, and writing up findings from ethnographic data (participant-observation field notes, interviews, and artifacts); issues of rigor in naturalistic research in education. Offered Fall, Winter.
Prerequisite: EER 7870 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

EER 7910 Qualitative Methods for Diversity and Inclusion Cr. 3
Explores qualitative methodologies at the intersection of diversity and inclusion. Includes readings that address qualitative methodologies and theories that relate to race, ethnicity, gender, sexuality, dis/ability, age, class, language, and other aspects of diversity and inclusion. Examines the role of global communities in qualitative research. Offered Fall.
Prerequisite: EER 7870 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

EER 7920 Qualitative Methods for Community and Classroom Research Cr. 3
Explores qualitative methodologies for community research in local contexts. Examines principles of, and considerations for, place-based research in nearby communities. Designs a community-based research project, includes a focus on participatory action research, and examines the role of local communities in qualitative research. Offered Winter.
Prerequisite: EER 7870 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

EER 8520 Qualitative Research II: Design and Data Collection Cr. 3
Examines approaches to qualitative data collection (interviews, focus groups, observations, documents, text, sound, video, and images). Readings in, and applications of, major qualitative research designs (ethnography, grounded theory, phenomenology, case study, narrative, and visual analysis). Offered Fall.
Prerequisite: EER 7870 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

EER 8530 Qualitative Research III: Data Analysis and Reporting Cr. 3
Examines approaches to qualitative data analysis and computer assisted qualitative data analysis software (CAQDAS). Readings in, and applications of, major forms of qualitative data analysis (ethnography, grounded theory, phenomenology, case study, narrative, and visual analysis). Also addresses discourse analysis and theoretical analysis. Offered Winter.
Prerequisite: EER 8520 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

EER 8550 Advanced Qualitative Inquiry: Innovations in Theory Cr. 3
Explores contemporary developments in theories of qualitative research. Examines recent theories in education and social sciences research and connects theory with methodological practice. Develops approaches to research design that are grounded in theoretical frameworks. Offered Fall.
Prerequisite: EER 8530 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

EER 8560 Advanced Qualitative Inquiry: Innovations in Practice Cr. 3
Explores contemporary developments in the practice of qualitative research, and situates recent trends within historical developments in the field. Offered Winter.
Prerequisite: EER 8550 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

EER 8700 Advanced Qualitative Evaluation: Theory and Practice Cr. 4
Major paradigms of qualitative evaluation, strategies of inquiry, methods of collecting and analyzing materials, the art of interpretation. analysis of real data, including pattern coding, data displays, checklist matrices, transcription, explanation prediction within-case vs cross-case displays, ethical issues in evaluation. Computer use in qualitative evaluation. Offered Winter.
Prerequisite: EER 7870 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

EER 8710 Advanced Ethnographic Research Cr. 4
Use of fieldwork to learn group interview, video collection and analysis, ethnographic survey, narrative and poetic analysis; deepening the understandings about culturally-sensitive research, rigor, and the politics of representation. Offered Winter.
Prerequisite: EER 7880 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

EER 8720 Advanced Quantitative Program Evaluation Cr. 3
Educational and school program evaluation: alternative approaches; students propose theory-based designs and strategies. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students.

EER 8760 Advanced Measurement I Cr. 3
Classical measurement theory including scaling, measurement error, reliability, validity. Review of strong statistics versus weak measurement debate. Empirical methods of psychometric applications in education and educational psychology. Offered Yearly.
Prerequisite: EER 7610 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

EER 8770 Advanced Measurement II Cr. 4
Modern measurement theory. Item response theory, including one and three parameter models, detecting item bias, multi-dimensional scaling. Offered Winter.
Prerequisite: EER 8760 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

EER 8800 Variance and Covariance Analysis Cr. 4
Multiple, partial, canonical correlation: variance and covariance analysis; Models I and II. Statistical analysis in experimental designs; Random Blocks, Latin Squares, Greco-Latin Squares, simple and complex factorials, confounding, fractional and split-plot designs. Supporting topics and techniques; missing observations; adjustment of means; probing the homogeneity of means and variances; study of contrasts; orthogonal polynomials and computer usage. Offered Yearly.
Prerequisite: EER 7630 with a minimum grade of B
Restriction(s): Enrollment is limited to Graduate level students.

EER 8820 Multivariate Analysis Cr. 4
Discriminant analysis, profile analysis; placement and classification problems; component and factor analysis. Supporting topics and techniques; transformation of variables, computer usage. Offered Yearly.
Prerequisite: EER 8800 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

EER 8840 Structural Equation Modeling Cr. 4
Application of structural equation methods to applied educational psychology research. Model specification, estimation, and fit. Confirmatory factor analysis and correlation. Offered Yearly.
Prerequisite: EER 8820 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

EER 8860 Nonparametric, Permutation, Exact, and Robust Methods Cr. 4
Application of nonparametric, permutation, exact and robust methods to social and behavioral science data. Techniques of estimation, location, and association for discrete and continuous data. Offered Fall, Winter.
Prerequisite: EER 7630 with a minimum grade of C and EER 8800 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

EER 8880 Monte Carlo Methods Cr. 1
FORTRAN 77/90/95 applied to Monte Carlo Methods for the development of new statistics and procedures and the comparison of existing methodologies. Solving data analysis problems via simulation techniques. Offered Fall, Winter.
Prerequisite: EER 7630 with a minimum grade of C and EER 8800 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

EER 8900 Qualitative Design for School Research Cr. 3
Field Placement. Integration of theory with practice for conducting, analyzing, and reporting qualitative research or evaluation in the schools. Offered Fall.
Prerequisite: EER 8700 with a minimum grade of C or EER 8710 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

EER 8910 Practicum in Evaluation Cr. 2-6
Qualitative methods for action research in schools, including interviewing, field observation, life histories, visual records, and document analysis. Offered Every Term.
Prerequisite: EER 8700 with a minimum grade of C and EER 8710 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Education Evaluation&Research.

EER 8992 Research and Experimental Design Cr. 3-4
Design of empirical research for students possessing basic knowledge of statistics. Topics include hypothesis construction, sampling theory, experimental and quasi-experimental designs, selection of statistical procedure, and construction of data gathering instruments. Offered Fall, Winter.
Prerequisite: EER 7630 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

EET - ELECTRICAL/ ELECTRONIC ENGINEERING TECHNOLOGY

EET 2000 Electrical Principles Cr. 3
Kirchhoff's laws, D.C. and A.C. circuit analysis, impedance, phasors, power and power factor correction, mutual coupling. Power transformers, D.C. and A.C. generators and motors, motor controls. Offered Yearly.
Prerequisites: MAT 1800 with a minimum grade of C-

EET 2100 Principles of Digital Design Cr. 3
Applied Boolean algebra and number systems. Logic families, K-mapping; combinational logic, multiplexers and demultiplexers, readouts and displays, flip flops. Offered Yearly.

EET 2720 Microprocessor Fundamentals Cr. 3
Use of microprocessors as interface devices, including software, interfaces, memory, registers, and microcomputer system architecture, computer programming design projects. Offered Yearly.
Prerequisites: CSC 1050 with a minimum grade of C-
Course Material Fees: $25

EET 3100 Advanced Digital Design Cr. 3
System level design of digital logic circuits using hardwired and programmable logic devices. ROMs, PROMs, and PLAs. Synchronous and asynchronous circuit design and analysis. Offered Fall, Winter.
Prerequisites: EET 2100 with a minimum grade of C-

EET 3150 Network Analysis Cr. 4
Analysis of circuits with dependent sources, RL, RC, and RLC circuit transient and sinusoidal response, network functions, frequency response, and power analysis. Offered Fall, Winter.
Prerequisites: EET 2000 with a minimum grade of C- and May be taken concurrently: ET 3450 with a minimum grade of C- and PHY 2140 with a minimum grade of C-

EET 3180 Analog Electronics Cr. 4
Operational amplifiers, circuit and applications; summing and subtracting amplifiers; integrating and differentiating amplifiers; comparators. Design of active filters, oscillators and waveform generating circuits, and audio integrated circuits. Offered Fall, Winter.
Prerequisites: CHM 1020 with a minimum grade of C- and EET 2000 with a minimum grade of C-
Course Material Fees: $20

EET 3300 Applied Signal Processing Cr. 3
Continuous-time and discrete-time signals, frequency response and impulse response; transfer function of linear systems, data acquisition and sampling, continuous and discrete Fourier transform; spectrum analysis and filtering; digital filter design. Offered Fall, Winter.
Prerequisites: May be taken concurrently: EET 3150 with a minimum grade of C-

EET 3500 Electrical Machines and Power Systems Cr. 3
Energy fundamentals. Physical and operating characteristics of D.C. and A.C. generators and motors, transformers. Electric power network. Transmission line stability. Power factor correction. Load sharing by transformers and generators. Per unit notation. Environmental impact of electric power generation. Offered Intermittently.
Prerequisites: EET 2000 with a minimum grade of C- and ET 3430 with a minimum grade of C-

EET 3720 Micro and Programmable Controllers Cr. 3
Microprocessors and Programmable logic controllers; on-chip I/O resources, interfacing; controls, instrumentation, and communication; data manipulation and sequencer instruction set; development and debugging tools. Offered Fall, Winter.
Prerequisites: CSC 1050 with a minimum grade of C- and EET 2720 with a minimum grade of C-
Course Material Fees: $20

EET 4100 Computer Hardware Design Cr. 3
Structural organization and hardware design of digital computers. Register transfer, micro-operations, and microprogram control. Processing and control units, arithmetic algorithms, input-output systems, and memory systems. Offered Yearly.
Prerequisites: EET 2720 with a minimum grade of C- and EET 3100 with a minimum grade of C-

EET 4200 Control Systems Cr. 4
Feedback control systems with topics in time response, stability criteria, system representation, frequency response, compensation. PID controller; simulation of electrical and mechanical systems. Offered Fall, Winter.
Prerequisites: ET 3450 with a minimum grade of C- and EET 3150 with a minimum grade of C- or MCT 3010 with a minimum grade of C-
Course Material Fees: $10

EET 4600 Power Electronics Cr. 3
Understanding different types of power semiconductor devices; analysis of typologies of uncontrolled and controlled converters, dc-dc converters. Simulation of power converters and application of power converter technologies in industrial and utility applications. Offered Yearly.
Prerequisites: EET 3150 with a minimum grade of C- and ET 3450 with a minimum grade of C-
Restriction(s): Enrollment is limited to Undergraduate level students.

EET 4990 Guided Study Cr. 1-6
Supervised study and instruction in field selected by student. Offered Intermittently.
Repeatable for 6 Credits

EET 5720 Computer Networking Applications Cr. 4
Networking protocols, components, architecture, and standards. Data communication, data packet structure, data transmission methods and techniques, network topologies, and media access control methods. Offered Yearly.
Prerequisites: EET 3100 with a minimum grade of C- and EET 3720 with a minimum grade of C-
Course Material Fees: $25

EET 5730 Embedded Systems Networking Cr. 3
Principles of data communications and real-time wired and wireless embedded systems networking. State of the art embedded networks including Controller Area Networks (CAN), internet connectivity and other embedded standards will be utilized in this project based class. Offered Fall.
Prerequisites: EET 3100 with a minimum grade of C- and EET 3720 with a minimum grade of C-

EET 7720 Advanced Computer Networking Cr. 4
Latest advances in networking; internetworking with bridges, routers, and switches. LAN and WAN protocols, high speed networks. Offered Yearly.
Prerequisite: EET 5720 with a minimum grade of C
Corequisite: EET 7430
Restriction(s): Enrollment is limited to Graduate level students.

EGR - ENGINEERING: SPECIAL TOPICS

EGR 5655 Innovation & Entrepreneurship I Cr. 3
Provides education and hands-on experience in innovation and entrepreneurship applied to enterprise, product and service design and delivery. The first of a 2-semester sequence, this course teaches methods and tools to find, formulate, and develop engineering innovation and entrepreneurship, leading to practical, relevant, and productive new commercial and social enterprises. Offered Fall.
Restriction(s): Enrollment limited to students in the College of Engineering.

EGR 5656 Innovation & Entrepreneurship II Cr. 3
Provides education and hands-on experience in innovation and entrepreneurship applied to enterprise, product and service design and delivery. This course is the second of a 2-semester sequence. This course teaches methods and tools to find, formulate and develop engineering innovation and entrepreneurship, leading to practical, relevant, and productive new commercial and social enterprises. Offered Winter.
Restriction(s): Enrollment limited to students in the College of Engineering.

EGR 5657 Innovation & Entrepreneurship Lab Cr. 1
Provides hands-on application of Lean LaunchPad principles in innovation and entrepreneurship applied to enterprise, product and service and delivery. Offered Every Term.
Restriction(s): Enrollment limited to students in the College of Engineering.
Repeatable for 2 Credits

EGR 5995 Special Topics in Engineering Cr. 1-4
State of the art research, development and practice topics from across the fields of engineering; emphasis on interdisciplinary topics. Offered Every Term.
Restriction(s): Enrollment limited to students in the College of Engineering.
Repeatable for 4 Credits

EGR 7995 Special Topics in Engineering Cr. 1-4
State of the art research, development and practice topics from across the fields of engineering; emphasis on interdisciplinary topics. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.
Repeatable for 4 Credits

EGR 7999 Elements of Graduate Research Cr. 2
Key elements of graduate research. Topics covered include developing research ideas and library search skills, constructing a research proposal/prospectus, identifying research funding and fellowship opportunities, interdisciplinary research, and research ethics. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in a Doctor of Philosophy degree.

EHP - EDUCATIONAL HISTORY AND PHILOSOPHY

EHP 3600 Introduction to the Philosophy of Education Cr. 3
Leading philosophies of education as they bear upon education as a profession and as a discipline. Offered Every Term.
Restriction(s): Enrollment limited to students in the College of Education.

EHP 7600 Philosophy of Education Cr. 2-3
Philosophic inquiry into educational theory and practice. For teachers, counselors, curriculum directors, administrators, and those in related professions. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.

EHP 9600 Doctoral Seminar in Philosophy of Education Cr. 3
Systematic study of the field of philosophy of education. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students.

EI - ENTREPRENEURSHIP AND INNOVATION

EI 1000 Entrepreneurial Explorations Cr. 1
Seminar series designed to expose students to entrepreneurship and innovation through exercises and interaction with experienced entrepreneurs and innovators. Offered Every Term.

EI 5000 Introduction to Entrepreneurship and Innovation Cr. 3
Introduces the integrative new venture development framework, processes and tools applied throughout the program, and explores opportunities, resources available and the local entrepreneurial ecosystem. Offered Every Term.
Restriction(s): Enrollment is limited to Undergraduate level students.

EI 5200 Startup Funding and Profitability Cr. 3
Introduces students to basic accounting and financial information and the tools necessary to understand the workings and prospects a new venture; explore funding options for new ventures and develop financial projections required in a business plan. Offered Yearly.
Restriction(s): Enrollment is limited to Undergraduate level students.

EI 5400 Management and Leadership for Entrepreneurs Cr. 3
Topics include: the essential attributes of a successful entrepreneur and innovation; development of effective networks and personal relationships; working with and blending the strengths and talents of others, group and team dynamics; effective leadership and management; the everyday challenges of creating, owning and running a new venture, and exploring the differences which arise due to the type and size of the new venture. Offered Yearly.
Restriction(s): Enrollment is limited to Undergraduate level students.

EI 5600 Marketing New Ventures Cr. 3
Topics include: product development vs. customer development; market types; customer types; diffusion and adoption life cycle theories and concepts; market opportunity analysis and product/ market fit, estimation of market size; value proposition; positioning statement; marketing strategy and plan to launch and sustain a new venture. Offered Yearly.
Restriction(s): Enrollment is limited to Undergraduate level students.

EI 5900 Special Topics in Entrepreneurship and Innovation Cr. 3
Topics to be announced in the schedule of classes. Offered Yearly.
Restriction(s): Enrollment is limited to Undergraduate level students.
Repeatable for 6 Credits

EI 5950 Directed Study in Entrepreneurship and Innovation Cr. 3
Offered Every Term.
Restriction(s): Enrollment is limited to Undergraduate level students.

EI 6000 Entrepreneurship and Innovation Capstone Cr. 3
Combines seminars with a project-intensive learning experience situated in the Detroit entrepreneurial ecosystem. Integrate and apply accumulated learning experiences from previous courses to the creation of a viable new venture and reach a decision whether or not to proceed, pivot, or terminate a new venture, and plan how to take these next steps. Offered Every Term.
Prerequisites: 3 of EI 5200, EI 5400, EI 5600, EI 5900, EI 5950, FPC 5010, FPC 5660 and EI 5000
Restriction(s): Enrollment is limited to Undergraduate level students.

EI 7000 Introduction to Entrepreneurship and Innovation Cr. 3
Exploration of entrepreneurship and innovation, introduces an integrative new venture development framework along with processes and tools applied throughout the certificate program; explores opportunities, resources available and the regional entrepreneurial ecosystem. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.

EI 7200 Startup Financing and Profitability Cr. 3
Introduces students to basic accounting and financial information and the tools necessary to understand the workings and prospects for a new venture; explore funding options for new ventures and develop financial projections required in a business plan. Offered Yearly.
Prerequisites: EI 7000 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

EI 7400 Management and Leadership for Entrepreneurs Cr. 3
Topics include: the essential attributes of a successful entrepreneur and innovation; development of effective networks and personal relationships; working with and blending the strengths and talents of others, group and team dynamics; effective leadership and management; the everyday challenges of creating, owning and running a new venture, and exploring the differences which arise due to the type and size of the new venture. Offered Yearly.
Prerequisites: EI 7000 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

EI 7600 Marketing New Ventures Cr. 3
Topics include: product development vs. customer development; market types; customer types; diffusion and adoption life cycle theories and concepts; market opportunity analysis and product/ market fit, estimation of market size; value proposition; positioning statement; marketing strategy and plan to launch and sustain a new venture. Offered Yearly.
Prerequisites: EI 7000 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

EI 7800 Special Topics in Entrepreneurship and Innovation Cr. 3
Offered Yearly.
Prerequisites: EI 7000 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

EI 7850 Directed Study in Entrepreneurship and Innovation Cr. 3
Offered Every Term.
Prerequisites: EI 7000 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

EI 7900 Entrepreneurship and Innovation Capstone Cr. 3
Combines seminars and discussions with a project-intensive learning experience situated in the Detroit entrepreneurial ecosystem. Integrate and apply accumulated learning experiences from previous courses to the creation of a viable new venture; reach a decision whether or not to proceed, pivot, or terminate a new venture; plan how to take the next steps and/or continue to pursue funding and achieve venture success. Offered Every Term.
Prerequisite: EI 7000 with a minimum grade of B
Restriction(s): Enrollment is limited to Graduate level students.

ELE - ELEMENTARY EDUCATION

ELE 6010 Family Centered Collaboration in Early Childhood Intervention and Special Education Cr. 3-4
Theories, concepts and practices of family centered intervention services for young children with special needs. Team-building and cross-disciplinary communication and collaboration with families. Offered Fall.
Restriction(s): Enrollment limited to students in the College of Education.
Equivalent: PSY 6010, SW 6010

ELE 6020 Seminar in Early Childhood Cr. 3
Satisfies General Education Requirement: Writing Intensive Competency
Educational programs for young children in child care centers, kindergartens, and the primary grades. Improved human relationships, choices for children, play as a way of learning. Offered Yearly.
Restriction(s): Enrollment limited to students in the College of Education.

ELE 6030 Assessment of Young Children in Educational Settings Cr. 3
Strategies for authentic assessments of young children in school and family educational settings. Offered Yearly.

ELE 6040 Role of Content Areas in Early Childhood Education Cr. 2-8
Child growth and development as related to the content areas within the early childhood years (birth to eight years). Appropriate subject matter, field experience, reference materials, audio-visual resources in the lives of young children. Topics to be announced in Schedule of Classes. Offered Spring/Summer.
Restriction(s): Enrollment limited to students in the College of Education.
Repeatable for 8 Credits

ELE 6050 Infant and Toddler Development to Inform Relationship-Based Curricula and Interventions Cr. 3
Children's growth and development from conception through 3-years of age; emphasis on ecological aspects of infancy and toddler years; pivotal foundations of children's developmental competencies within relationship-based interventions and curriculum. Offered Winter.
Restriction(s): Enrollment limited to students in the College of Education.

ELE 6060 Community Contacts: Working with Families in Urban Settings Cr. 3
Programs and services within the community that assist families in improving educational services for the child. Offered Yearly.

ELE 6070 Family, Community and School Partnerships: Supporting Children's Learning Cr. 3
Theory and practice in joining families, communities, and schools in promoting children's learning, development and success in school. Strengths and needs of families in a diverse, multicultural society, teachers' roles in concert with other disciplines in supporting families and building partnerships, and connection with community resources. Offered Yearly.

ELE 6080 Preprimary Goals and Practices Cr. 3
Topics related to development and learning of preschool child, role of teacher as facilitator, impact of family and community. Offered Fall, Winter.
Prerequisites: May be taken concurrently: ED 5998 with a minimum grade of C and May be taken concurrently: TED 5790 with a minimum grade of C
Restriction(s): Enrollment limited to students in the College of Education.

ELE 6090 Introduction to Infant Mental Health Theory and Practice Cr. 3
Concepts of infant mental health theory and practice as a developmental framework for the observation, assessment and understanding of infant-parent behaviors and interactions as indicators of strengths and risks in the security of the attachment relationship. Offered Yearly.

ELE 6100 Planning and Implementing Preschool Curriculum Cr. 3
Planning, implementing, and evaluating all aspects of preschool curriculum: activities, routines, and working with staff and parents. Offered Intermittently.

ELE 6200 Children's Literature for Teachers Cr. 3
Survey of literature for use with PS-8 children; literary and artistic aspects of children's literature and strategies for integrating literature into school curriculum. Offered Fall.
Restriction(s): Enrollment limited to students in the College of Education.

ELE 6220 Literacy I Cr. 3
Theoretical foundations for literacy, investigation of beginning reading and writing constructs and processes, teaching strategies and instructional material. Evaluating literacy skills and knowledge through formal and informal measures and reporting to parents and other professionals. Implications of multiculturalism, special needs, and English language learners. Offered Every Term.
Restriction(s): Enrollment limited to students in the College of Education.

ELE 6240 Literacy II Cr. 3
Development of comprehension in literature and informational material, instructional strategies and material with emphasis on integrated instruction. Evaluation of the development of comprehension and writing through formal and informal measures and reporting to parents and other professionals. Implications of multiculturalism, special needs, and English language learners. Offered Every Term.
Prerequisite: ELE 6220 with a minimum grade of C
Restriction(s): Enrollment limited to students in the College of Education.

ELE 6260 Literacy III Cr. 3
Literacy theory and research and its application to language arts instruction in elementary and middle schools: reading, writing, speaking, listening, viewing, and visually representing. Implications of multiculturalism, special needs, and English language learners. Offered Fall.
Prerequisite: ELE 6220 with a minimum grade of C and ELE 6240 (may be taken concurrently) with a minimum grade of C
Restriction(s): Enrollment limited to students in the College of Education.

ELE 6340 Teaching Reading in Early Childhood Education Cr. 3
Rationale for teaching reading and various reading skills to young children. Materials and methods for initial reading instruction. Offered Yearly.
Restriction(s): Enrollment limited to students in the College of Education.

ELE 6390 Mathematics Instruction: P-8 Cr. 3
Developing mathematics skills in elementary and middle schools. Students plan, implement and evaluate learning experience with children under professional guidance. Offered Fall, Winter.
Restriction(s): Enrollment limited to students in the College of Education.

ELE 6500 Science Curriculum: P-8 Cr. 3
Role of learning in science in the curriculum. Objectives, plans of organization for learning, resources materials. Overview of balanced program. Experiences with appropriate experiments, field trips, reference materials, audio-visual resources. Offered Yearly.
Restriction(s): Enrollment limited to students in the College of Education.
Course Material Fees: $10

ELE 6600 Social Studies Curriculum: P-8 Cr. 3
Social studies program in elementary and middle schools emphasizing intellectual, social and affective development. Designing programs based on social priorities, modern socioeconomic, cultural, ethnic, political concepts. Offered Every Term.
Restriction(s): Enrollment limited to students in the College of Education.

ELE 6610 Current Developments in Early Childhood General and Special Education Cr. 1-6
Topics on developments in research-based recommended practices on early childhood general and special education, covered through seminars and workshops; early intervention and educational implications for children from birth to eight years old. Topics to be announced in Schedule of Classes. Offered Intermittently.
Repeatable for 6 Credits

ELE 7020 Issues in Early Childhood Education Cr. 3
Current issues in early childhood care and education including theories, research, best practice, and historical philosophies. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.

ELE 7035 Infant and Toddler Developmental Assessment for Intervention Planning Cr. 3
Developmental assessment of infants and toddlers for early intervention planning and infant mental health services. Focus on standardized assessment and evaluation procedures across child developmental domains and interpretation of results to inform interventions within natural environments. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students.

ELE 7840 Educating Elementary/Middle School Students in Urban Communities Cr. 3
Challenges and resources of teaching diverse populations in metropolitan schools. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students.

ELE 7850 Current Issues in Elementary Education Cr. 1-9
Current developments and issues of concern and debate in education at the international, national, state and local level. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 9 Credits

ELI - ENGLISH LANGUAGE INSTITUTE

ELI 0100 Level 1: Oral Integrated Cr. 2,4
The focus of this course is to develop students' basic listening and speaking skills necessary for everyday life. They will learn basic listening strategies, interact with others about simple topics, and produce simple sentences and questions with target vocabulary. Students will practice articulating consonant and vowel sounds correctly and produce accurate stress and intonation patterns. Offered Every Term.
Restriction(s): Enrollment is limited to English Language Institute level students.
Repeatable for 4 Credits

ELI 0110 Level 1: Written Integrated Cr. 2,4
The focus of this course is to introduce basic writing and grammar skills. Students will produce simple sentences on topics related to their personal needs. Timed and multi-draft writings will include simple sentences, correct use of capital and lower case letters, legible handwritten letters, and appropriate vocabulary. Basic grammatical structures will be introduced. Offered Every Term.
Restriction(s): Enrollment is limited to English Language Institute level students.
Repeatable for 4 Credits

ELI 0120 Level 1: Reading and Vocabulary Cr. 2,4
The focus of this course is to increase students' ability to read and comprehend simple material and to increase their ability to recognize familiar words in everyday contexts. Students will use a picture dictionary and develop vocabulary associated with simple topics. Students will read short texts from basic readers and ELI library books. Offered Every Term.
Restriction(s): Enrollment is limited to English Language Institute level students.
Repeatable for 4 Credits

ELI 0200 Level 2: Oral Integrated Cr. 2,4
The focus of this course is to develop students' abilities to carry on short, sustained conversation. They will apply listening strategies to discuss simple passages. They will interact with classmates. Students will use high-frequency vocabulary to produce simple and compound sentences with correct verb tenses. Students will use connected and reduced speech. Offered Every Term.
Restriction(s): Enrollment is limited to English Language Institute level students.
Repeatable for 4 Credits

ELI 0210 Level 2: Written Integrated Cr. 2,4
The focus of this course is to introduce paragraph writing and to develop basic grammatical understanding. Students will produce paragraphs in a variety of rhetorical modes. Timed and multi-draft paragraphs will include a topic sentence, simple transitions, three main points with some supporting details, and a concluding sentence. Basic grammatical structures will be introduced. Offered Every Term.
Restriction(s): Enrollment is limited to English Language Institute level students.
Repeatable for 4 Credits

ELI 0215 Level 2: Intensive Reading and Vocabulary Cr. 1,2
The focus of this course is to increase students' comprehension of printed material and acquire high-frequency vocabulary. Students will read simplified texts and apply reading skills, such as identifying main ideas and details, inferencing, and understanding sequence. Students will acquire vocabulary by using definitions from the text, interpreting from the context, and using dictionary skills. Offered Every Term.
Restriction(s): Enrollment is limited to English Language Institute level students.
Repeatable for 2 Credits

ELI 0220 Level 2: Communicative Grammar Cr. 1,2
The focus of this course is to build students' communicative competence, or their ability to communicate effectively and appropriately. To that end, basic grammar points will be studied and practiced in ways that simulate everyday conversations and scenarios. Students will engage in a variety of communicative activities that focus on speaking and writing. Offered Every Term.
Restriction(s): Enrollment is limited to English Language Institute level students.
Repeatable for 2 Credits

ELI 0300 Level 3: Oral Integrated Cr. 2,4
The focus of this course is to develop students' emerging academic listening and speaking skills. Students will apply listening and speaking strategies. They will also give short presentations. Emphasis will be on generating compound and complex sentences using simple academic vocabulary. Students will pronounce English sounds accurately and follow intonation and stress patterns appropriately. Offered Every Term.
Restriction(s): Enrollment is limited to English Language Institute level students.
Repeatable for 2 Credits

ELI 0310 Level 3: Written Integrated Cr. 2,4
The focus of this course is to produce well-developed paragraphs in a variety of rhetorical modes on academic topics. This course will culminate in an introduction to essay writing. Intermediate grammatical structures, such as complex sentences, adjective clauses, and the present perfect, will be introduced. Error-correction tasks, peer evaluations, and self-evaluations will develop self-editing skills. Offered Every Term.
Restriction(s): Enrollment is limited to English Language Institute level students.
Repeatable for 2 Credits

ELI 0315 Level 3: Intensive Reading and Vocabulary Cr. 1,2
The focus of this course is to increase students' vocabulary and comprehension of longer and varied reading passages. Students will also be able to understand the structure of a text with transition words and the relationship between the main point(s) and supporting examples. Strategies to discern meaning of words from context will also be practiced. Offered Every Term.
Restriction(s): Enrollment is limited to English Language Institute level students.
Repeatable for 2 Credits

ELI 0320 Level 3: Extensive Reading Cr. 1,2
The focus of this course is to increase students' reading fluency by reading large quantities of texts. Class Readers will give the teacher the opportunity to help the students acquire the art of extensive reading, to improve their skills, and to monitor their progress closely. Students will choose their own texts for independent reading. Offered Every Term.
Restriction(s): Enrollment is limited to English Language Institute level students.

ELI 0400 Level 4: Oral Integrated Cr. 2,4
The focus of this course is to develop students' academic listening and speaking skills needed for successful extended academic discourse. Students will demonstrate detailed understanding of academic listening passages. Students will use speaking strategies for academic discussions and to summarize information. They will give speeches using visuals, transitions, and grammatically-correct sentences with academic vocabulary. Offered Every Term.
Restriction(s): Enrollment is limited to English Language Institute level students.
Repeatable for 4 Credits

ELI 0410 Level 4: Written Integrated Cr. 2,4
The focus of this course is to develop students' essay writing skills and improve accuracy in grammar, mechanics, and spelling. Essays will be produced in a variety of rhetorical modes on academic topics that include some authentic sources. Students will also be introduced to summarizing and citing authentic sources. Complex grammatical structures will be introduced. Offered Every Term.
Restriction(s): Enrollment is limited to English Language Institute level students.
Repeatable for 4 Credits

ELI 0415 Level 4: Intensive Reading and Vocabulary Cr. 1,2
The focus of this course is to increase students' academic vocabulary and comprehension of academic reading passages. Students will identify the structure, purpose, and connection between ideas in texts. Students will use strategies to discern meaning of words from context. They will acquire knowledge of word forms and will use dictionary skills to build vocabulary. Offered Every Term.
Restriction(s): Enrollment is limited to English Language Institute level students.
Repeatable for 2 Credits

ELI 0420 Level 4: Extensive Reading Cr. 1,2
The focus of this course is to increase students' reading fluency by reading large quantities of texts. Class Readers will give the teacher the opportunity to help the students acquire the art of extensive reading, to improve their skills, and to monitor their progress closely. Students will choose their own texts for independent reading. Offered Every Term.
Restriction(s): Enrollment is limited to English Language Institute level students.
Repeatable for 2 Credits

ELI 0500 Level 5: Oral Integrated Cr. 2,4
The focus of this course is to develop students' academic listening and speaking skills needed for successful extended academic discourse. Students will use listening strategies to show detailed understanding of lengthy academic listening passages. They will apply speaking strategies to share information and communicate with automaticity. Concentration will be on consistently speaking intelligibly and fluently. Offered Every Term.
Restriction(s): Enrollment is limited to English Language Institute level students.
Repeatable for 4 Credits

ELI 0510 Level 5: Written Integrated Cr. 2,4
Students will develop critical thinking skills through reading, writing, and classroom discussion. Students will write well-developed five- to eight-paragraph essays and relate assigned readings to their own experience. Students will learn how to incorporate outside sources into their essays and use appropriate citations. Advanced grammatical structures will be reviewed and expanded as necessary Offered Every Term.
Restriction(s): Enrollment is limited to English Language Institute level students; enrollment is limited to students with a major, minor, or concentration in English Language Institute.
Repeatable for 4 Credits

ELI 0515 Level 5: Research Skills Cr. 1,2
The focus of this course is to introduce skills essential to conduct academic research at the university level. Students will learn how to search for and evaluate academic sources in the library and online databases as well as how to read, analyze, and use the information gathered. The course also focuses on paraphrasing and summarizing. Offered Every Term.
Restriction(s): Enrollment is limited to English Language Institute level students.
Repeatable for 2 Credits

ELI 0520 English for Teaching Assistants Cr. 2
American English language skills to improve teaching effectiveness of non-native speakers of English. Pronunciation, stress, intonation, speaking rate; oral presentation practice; cultural factors in U.S. university classroom. Not offered for degree credit. Offered Every Term.
Repeatable for 4 Credits

ELI 0530 TOEFL/Timed Essay Writing Preparation Cr. 1-2
Class designed to enhance student's ability to understand and perform on the Test of English as a Foreign Language (TOEFL) for the paper-based and iBT(Internet)-based formats. Offered Yearly.
Restriction(s): Enrollment is limited to English Language Institute level students; enrollment is limited to students with a major, minor, or concentration in English Language Institute.

ELI 0540 Level 5: Media & Culture Cr. 1,2
The focus of this course is to gain a greater understanding of American culture and current events via extensive reading from print and digital media, leading to written assignments, oral presentations, and discussions. In addition, TV and radio programs, as well as podcasts and documentaries, will provide input for written and oral assignments. Offered Every Term.
Restriction(s): Enrollment is limited to English Language Institute level students.
Repeatable for 6 Credits

ELI 0699 Directed Study Cr. 1-4
Meets the needs of English as a Second Language (ESL) students in their last stages of preparation for matriculation. Based on students' particular needs, instruction will be provided to strengthen various academic preparation skills, including listening and note-taking practice in an academic context, extensive and intensive reading, and expository and research paper writing. Offered Every Term.
Restriction(s): Enrollment is limited to English Language Institute level students; enrollment is limited to students with a major, minor, or concentration in English Language Institute.
Repeatable for 8 Credits

ELI 0700 Written Communication Cr. 1,2
Through reading and writing of complex texts, students improve their understanding and use of American English grammar and mechanics (punctuation and capitalization) for academic and professional settings. Offered Every Term.
Restriction(s): Enrollment is limited to English Language Institute level students.
Repeatable for 2 Credits

ELI 0705 American Pronunciation and Clear Communication Cr. 1,2
Course addresses the communication needs of advanced-level, non-native English speakers who want to reduce the amount of pronunciation errors produced in their speech. Offered Winter.
Restriction(s): Enrollment is limited to English Language Institute level students.
Repeatable for 2 Credits

ELI 0800 Writing Skills I Cr. 3
This course integrates reading, writing, and grammar and focuses on comprehending main ideas and details, inferencing in simplified reading texts, and understanding This course integrates reading, writing, and grammar and focuses on comprehending main ideas and details, inferencing in simplified texts, and understanding vocabulary in context. Students will learn to organize and write paragraphs with simple grammatically correct sentences. Offered Spring/Summer.
Restriction(s): Enrollment is limited to English Language Institute level students.

ELI 0810 Oral Skills I Cr. 3
This course integrates listening and speaking in English and introduces culturally appropriate interaction in speech. Students listen to dialogues, newscasts, and short lectures; give presentations on a variety of topics; and receive individualized feedback on pronunciation. Offered Spring/Summer.
Restriction(s): Enrollment is limited to English Language Institute level students.

ELI 0820 Writing Skills II Cr. 3
This course integrates reading, writing, and grammar and will emphasize how reading and writing are related. Rhetorical modes of essay writing will be introduced, authentic texts will be read, and more advanced grammar points will be covered. Offered Spring/Summer.
Restriction(s): Enrollment is limited to English Language Institute level students.

ELI 0830 Oral Skills II Cr. 3
This course integrates listening and speaking in English and focuses on refining students' abilities to understand academic and informal spoken language by listening to academically-themed lectures and extended dialogues. They will develop critical thinking skills for responding to questions and giving presentations. Offered Spring/Summer.
Restriction(s): Enrollment is limited to English Language Institute level students.

ELI 0840 Writing Skills III Cr. 4
Course integrates reading, writing, and grammar; focuses on reading authentic materials and writing essays. Students work to improve their understanding and use of American English, grammar, and mechanisms for academic settings. Offered Spring/Summer.
Restriction(s): Enrollment is limited to English Language Institute level students.

ELI 0850 Oral Skills III Cr. 4
Course integrates listening and speaking in English and will help students increase their aural/oral fluency through participation in academic/content-based discussions and various other forms of speech in formal, informal, and academic settings. Offered Spring/Summer.
Restriction(s): Enrollment is limited to English Language Institute level students.

ELI 0860 Communication and Culture Cr. 4
This course will involve writing and oral presentations based on academic readings and cultural experiences. Additional instruction in grammar and sentence structure will be provided based on students' needs. Offered Spring/Summer.
Restriction(s): Enrollment is limited to English Language Institute level students.

ELR - EMPLOYMENT AND LABOR RELATIONS

ELR 2500 Introduction to Labor Studies Cr. 4
Introduction to labor and employment relations: the essential nature, evolution and purpose of the twenty-first century workplace. Offered Every Term.

ELR 4500 Applied Labor Studies Cr. 3
Practical training in various labor relations specialties, such as collective bargaining or labor law. Consult coordinator on specific topic. Offered Every Term.
Repeatable for 12 Credits

ELR 4700 Senior Seminar Cr. 3
Satisfies General Education Requirement: Writing Intensive Competency
Research, reflection, discussion and analysis of labor relations practice. Offered Yearly.
Prerequisites: ELR 2500
Repeatable for 6 Credits

ELR 4990 Directed Study Cr. 1-6
Supervised reading and research in labor studies. Offered Every Term.
Repeatable for 6 Credits

ELR 7000 Introduction to Labor and Employment Relations Cr. 3
Introduction to the broad and changing field of labor and employment relations. Topics from the nature of work and role of labor in society to current labor and employment laws. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.

ELR 7010 Health Care, Retirement, and Employee Benefit Plans Cr. 3
Comprehensive understanding of employee benefits issues and practices. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.

ELR 7400 Labor Relations Law in North America Cr. 3
Federal and provincial regulation of union organizing, collective bargaining and union contract administration in the private sector. Content, administration and judicial interpretation of labor relations legislation in the United States, Mexico, and the Canadian province of Ontario. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.

ELR 7420 Labor and American Politics Cr. 3
Role of organized labor in American politics. Historical background, including rise of the UAW and its role in Detroit and Michigan politics. Recent declines; future of organized labor as a force in American politics. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: PS 6070

ELR 7430 Public Sector Labor Relations Cr. 3
History, present functions, problems and current controversies surrounding public sector unions. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: PS 6340

ELR 7450 Employment Relations Law in North America Cr. 3
Federal and state legislation affecting employee-employer relations: discrimination, pension, occupational safety and health, fair labor standards. Implementation of these policies, effect on worker-manager relations: Canada, Mexico, United States. Required core course. Offered Spring/Summer.
Restriction(s): Enrollment is limited to Graduate level students.

ELR 7550 Selected Topics in Employment and Labor Relations Cr. 3
Various topics to be offered on a limited basis to meet needs of students with special interests not covered by regular course offerings. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 9 Credits

ELR 7600 Internship in Employment and Labor Relations Cr. 1-3
Active involvement in employment and labor relations duties for an employer, union, government agency, or employment and labor relations professional; apprenticeship to a labor arbitrator; or other appropriate opportunity for industrial relations experience. At least eight hours per week; may be paid or unpaid. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the MA in Employ & Labor Relations program.
Repeatable for 3 Credits

ELR 7700 Current and Future Trends in Collective Bargaining Cr. 3
Collective bargaining, current and future directions; emphasis on joint union-management approach to developing programs improving the quality of work life through workers' involvement in the decision-making process; examination of practical procedures to initiate and implement such programs. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the MA in Employ & Labor Relations program.

ELR 7990 Directed Study Cr. 1-4
Intensive study of significant industrial relations topic against background of more general course work. Preparation of term paper required. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the MA in Employ & Labor Relations program.
Repeatable for 4 Credits

ELR 7999 Master's Essay Direction Cr. 3
Plan B alternative to a three-credit elective course. Opportunity for intensive research and writing experience on relevant subject matter. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students with a class of Candidate Masters; enrollment limited to students in the MA in Employ & Labor Relations program.

ELR 8000 International Employment Labor Relations and Human Resources Cr. 3
Provides an understanding of the role of international ELR and divided into three areas of study: the economic, political, and social contexts of international ELR; strategic and functional ELR policies and practices cross-nationally; and cross-national comparisons on dimensions of efficiency, equity, and voice. Covers issues related to host, home and third country nationals; recruitment, selection, training, development and compensation in international contexts, expatriation and repatriation, and employment and labor relations. Studies of the HR context of selected countries are also included. Offered Intermittently.
Prerequisite: ELR 7000 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

ELR 8500 Strategic Analysis of North American Labor and Human Resources Issues Cr. 3
Analysis on micro (game theory) and macro (planning) levels; integration of skills; student teams work as consultants for client organization on strategic labor or human resource problem. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the MA in Employ & Labor Relations program.

ENG - ENGLISH

ENG 1010 Basic Writing Cr. 2,3
Extensive practice in fundamentals of college writing and reading in preparation for ENG 1020. Required of students qualifying on the basis of ACT score or English Qualifying Examination. Only two credits count toward graduation. No credit toward English group requirement. Offered Every Term.
Prerequisites: APX 0500 with a minimum grade of SNC or ENG Permit to Reg ACT/SAT with a test score minimum of 1 or ENG Permit to Reg-L1-L2 EQE with a test score minimum of 1

ENG 1020 Introductory College Writing Cr. 3
Satisfies General Education Requirement: Basic Composition Competency
A course in reading, research, and writing skills that prepares students to write successfully in college classes. Offered Every Term.
Prerequisites: ENG 1010 with a minimum grade of SNC or ENG Permit to Reg ACT/SAT with a test score minimum of 2 or ENG Permit to Reg-L1-L2 EQE with a test score minimum of 2

ENG 1050 Freshman Honors: Introductory College Writing Cr. 3
Satisfies General Education Requirement: Basic Composition Competency
A course in reading, research and writing skills that prepares students to write successfully in college classes. Offered Fall.

ENG 2100 Introduction to Poetry: Literature and Writing Cr. 3
Satisfies General Education Requirement: Cultural Inquiry, Intermediate Comp Pre-2018
Introduction to techniques and forms of poetry through critical reading of, and writing about, poems of various types and from many periods. Offered Yearly.
Prerequisites: ENG 1020 with a minimum grade of C or ENG 1050 with a minimum grade of C or College Level Exam Program with a test score minimum of BC-BD or AA Exempt from Gen Ed MACRAO with a test score minimum of 100 or Michigan Transfer Agreement with a test score minimum of 100 or BA Competencies Waiver with a test score minimum of 100

ENG 2110 Introduction to Drama: Literature and Writing Cr. 3
Satisfies General Education Requirement: Cultural Inquiry, Intermediate Comp Pre-2018
Introduction to techniques and forms of drama through critical reading of, and writing about, representative plays from various traditions and periods. Offered Yearly.
Prerequisites: ENG 1020 with a minimum grade of C or ENG 1050 with a minimum grade of C or College Level Exam Program with a test score minimum of BC-BD or AA Exempt from Gen Ed MACRAO with a test score minimum of 100 or Michigan Transfer Agreement with a test score minimum of 100 or BA Competencies Waiver with a test score minimum of 100

ENG 2120 Introduction to Fiction: Literature and Writing Cr. 3
Satisfies General Education Requirement: Cultural Inquiry, Intermediate Comp Pre-2018
Introduction to techniques and forms of fiction through critical reading of, and writing about, short stories and novels. Offered Every Term.
Prerequisites: ENG 1020 with a minimum grade of C or ENG 1050 with a minimum grade of C or College Level Exam Program with a test score minimum of BC-BD or AA Exempt from Gen Ed MACRAO with a test score minimum of 100 or Michigan Transfer Agreement with a test score minimum of 100 or BA Competencies Waiver with a test score minimum of 100

ENG 2200 Shakespeare Cr. 3
Satisfies General Education Requirement: Cultural Inquiry, Philosophy Letters
Emphasis on the dramatic and literary qualities of the plays: representative comedies, tragedies and histories. Offered Every Term.
Prerequisites: ENG 1020 with a minimum grade of C or ENG 1050 with a minimum grade of C or College Level Exam Program with a test score minimum of BC-BD or AA Exempt from Gen Ed MACRAO with a test score minimum of 100 or Michigan Transfer Agreement with a test score minimum of 100 or BA Competencies Waiver with a test score minimum of 100

ENG 2210 Great English Novels: Literature and Writing Cr. 3
Satisfies General Education Requirement: Cultural Inquiry, Intermediate Comp Pre-2018
Critical reading of, and writing about, a representative sample of important and pleasurable English novels from the eighteenth century through the modern period. Offered Yearly.
Prerequisites: ENG 1020 with a minimum grade of C or ENG 1050 with a minimum grade of C or College Level Exam Program with a test score minimum of BC-BD or AA Exempt from Gen Ed MACRAO with a test score minimum of 100 or Michigan Transfer Agreement with a test score minimum of 100 or BA Competencies Waiver with a test score minimum of 100

ENG 2310 Major American Books: Literature and Writing Cr. 3
Satisfies General Education Requirement: Cultural Inquiry, Intermediate Comp Pre-2018
Critical reading of, and writing about, representative texts in prose, poetry, and drama by such writers as Emerson, Twain, Dickinson, O'Neill, Ellison. Offered Yearly.
Prerequisites: ENG 1020 with a minimum grade of C or ENG 1050 with a minimum grade of C or College Level Exam Program with a test score minimum of BC-BD or AA Exempt from Gen Ed MACRAO with a test score minimum of 100 or Michigan Transfer Agreement with a test score minimum of 100 or BA Competencies Waiver with a test score minimum of 100

ENG 2390 Introduction to African-American Literature: Literature and Writing Cr. 3
Satisfies General Education Requirement: Diversity Equity Incl Inquiry, Intermediate Comp Pre-2018, Intermediate Comp Post-2018
Introduction to major themes and some major writers of African-American literature, emphasizing modern works. Reading and writing about representative poetry, fiction, essays, and plays. Offered Every Term.
Prerequisites: ENG 1020 with a minimum grade of C or ENG 1050 with a minimum grade of C or College Level Exam Program with a test score minimum of BC-BD or AA Exempt from Gen Ed MACRAO with a test score minimum of 100 or Michigan Transfer Agreement with a test score minimum of 100 or BA Competencies Waiver with a test score minimum of 100
Equivalent: AFS 2390

ENG 2420 Literature and Science Cr. 3
Satisfies General Education Requirement: Cultural Inquiry, Intermediate Comp Pre-2018
Studies of science writing from a literary, rhetorical, or cultural studies perspectives. Readings might include science fiction; creative non-fiction; historical texts; personal essays from practitioners; nature and environmental writing; and works on technology, medicine, or cognitive approaches to literature. Offered Yearly.
Prerequisites: ENG 1020 with a minimum grade of C or ENG 1050 with a minimum grade of C or College Level Exam Program with a test score minimum of BC-BD or AA Exempt from Gen Ed MACRAO with a test score minimum of 100 or Michigan Transfer Agreement with a test score minimum of 100 or BA Competencies Waiver with a test score minimum of 100
Restriction(s): Enrollment is limited to Undergraduate level students.

ENG 2430 Digital Narrative Cr. 3
Satisfies General Education Requirement: Cultural Inquiry, Philosophy Letters
Introductory study of digital narrative and electronic textuality, including a variety of digital-born media such as online literature, gaming and interactive fiction. Offered Yearly.
Prerequisites: ENG 1020 with a minimum grade of C or ENG 1050 with a minimum grade of C or College Level Exam Program with a test score minimum of BC-BD or AA Exempt from Gen Ed MACRAO with a test score minimum of 100 or Michigan Transfer Agreement with a test score minimum of 100 or BA Competencies Waiver with a test score minimum of 100
Restriction(s): Enrollment is limited to Undergraduate level students.

ENG 2435 Introduction to Digital Humanities Cr. 3
Digital humanities scholarship has exploded over the last ten years. Early DH scholarship represented a niche in humanities fields like English and History, dominated by unique individuals who had both technical programming skills and experience in humanities research. Since its early days, the field of digital humanities has expanded significantly. New tools and platforms make DH research more accessible. Today, DH scholars work in a highly collaborative, interdisciplinary environment that place programmers and developers, information science specialists, and humanities scholars in active conversation. In this course, students will be introduced to these different elements – tools, methods, theories, and critical analysis – of the digital humanities in order to learn new ways to interpret artistic or cultural objects or ideas, social relationships, and historical processes. Offered Fall.
Equivalent: HIS 2435

ENG 2440 Introduction to Visual Culture Cr. 3
Satisfies General Education Requirement: Cultural Inquiry, Visual Performing Arts
Introductory course in the reading of images from the perspective of literary and cultural studies. Attention to basic concepts, terms, and theories in the study of visual culture. Offered Yearly.
Prerequisites: ENG 1020 with a minimum grade of C or ENG 1050 with a minimum grade of C or College Level Exam Program with a test score minimum of BC-BD or AA Exempt from Gen Ed MACRAO with a test score minimum of 100 or Michigan Transfer Agreement with a test score minimum of 100 or BA Competencies Waiver with a test score minimum of 100
Restriction(s): Enrollment is limited to Undergraduate level students.

ENG 2445 Comics and Graphic Novels Cr. 3
Satisfies General Education Requirement: Cultural Inquiry
Introduction to the history, forms, and reading practices of graphic storytelling through critical reading of, and writing about, comics and graphic novels. Offered Yearly.
Prerequisite: ENG 1020 with a minimum grade of C

ENG 2450 Introduction to Film Cr. 4
Satisfies General Education Requirement: Cultural Inquiry, Visual Performing Arts
Examination of film techniques and basic methods of film analysis. Offered Every Term.
Course Material Fees: $15
Equivalent: COM 2010

ENG 2470 Television Culture Cr. 4
Satisfies General Education Requirement: Cultural Inquiry
A survey of American television history with an introduction to some of the aesthetic and theoretical concerns of television studies. Offered Yearly.
Prerequisite: ENG 1020 with a minimum grade of C

ENG 2500 The English Bible as Literature Cr. 3
Satisfies General Education Requirement: Cultural Inquiry, Philosophy Letters
The King James text as a literary masterpiece. Offered Intermittently.
Prerequisites: ENG 1020 with a minimum grade of C or ENG 1050 with a minimum grade of C or College Level Exam Program with a test score minimum of BC-BD or AA Exempt from Gen Ed MACRAO with a test score minimum of 100 or Michigan Transfer Agreement with a test score minimum of 100 or BA Competencies Waiver with a test score minimum of 100

ENG 2510 Popular Literature Cr. 3
Satisfies General Education Requirement: Cultural Inquiry, Philosophy Letters
Introductory study of popular literature. Content may include recent best-sellers, horror, science fiction and prize-winning novels. Offered Yearly.
Prerequisites: ENG 1020 with a minimum grade of C or ENG 1050 with a minimum grade of C or College Level Exam Program with a test score minimum of BC-BD or AA Exempt from Gen Ed MACRAO with a test score minimum of 100 or Michigan Transfer Agreement with a test score minimum of 100 or BA Competencies Waiver with a test score minimum of 100
Restriction(s): Enrollment is limited to Undergraduate level students.

ENG 2530 Literature and Identity Cr. 3
Satisfies General Education Requirement: Diversity Equity Incl Inquiry
The study of literary texts with an emphasis on how identity is shaped by race, ethnicity, religion, gender, sexual orientation, and other factors. Offered Intermittently.
Prerequisites: ENG 1020 with a minimum grade of C or ENG 1050 with a minimum grade of C or College Level Exam Program with a test score minimum of BC-BD or AA Exempt from Gen Ed MACRAO with a test score minimum of 100 or Michigan Transfer Agreement with a test score minimum of 100 or BA Competencies Waiver with a test score minimum of 100

ENG 2540 Literatures of the World Cr. 3
Satisfies General Education Requirement: Global Learning Inquiry
Provides a forum for the study of literature outside the United States and beyond the boundaries imposed by particular national or linguistic tradition. Offered Intermittently.
Prerequisites: ENG 1020 with a minimum grade of C or ENG 1050 with a minimum grade of C or College Level Exam Program with a test score minimum of BC-BD or AA Exempt from Gen Ed MACRAO with a test score minimum of 100 or Michigan Transfer Agreement with a test score minimum of 100 or BA Competencies Waiver with a test score minimum of 100

ENG 2560 Children's Literature: Literature and Writing Cr. 3
Satisfies General Education Requirement: Cultural Inquiry, Intermediate Comp Pre-2018
Introductory course in writing about the Anglo-American tradition of classic and contemporary children's literature. Offered Every Term.
Prerequisites: ENG 1020 with a minimum grade of C or ENG 1050 with a minimum grade of C or College Level Exam Program with a test score minimum of BC-BD or AA Exempt from Gen Ed MACRAO with a test score minimum of 100 or Michigan Transfer Agreement with a test score minimum of 100 or BA Competencies Waiver with a test score minimum of 100
Restriction(s): Enrollment is limited to Undergraduate level students.

ENG 2565 Young Adult Literature and Culture Cr. 3
Satisfies General Education Requirement: Cultural Inquiry
Analysis of Young Adult (YA) literature from a literary and cultural studies perspective. Offered Yearly.
Prerequisite: ENG 1020 with a minimum grade of C

ENG 2570 Literature By and About Women: Literature and Writing Cr. 3
Satisfies General Education Requirement: Cultural Inquiry, Diversity Equity Incl Inquiry, Intermediate Comp Pre-2018
Introduction to the major themes and issues of writing by and about women. Reading and writing about representative fictional and non-fictional works. Offered Every Term.
Prerequisites: ENG 1020 with a minimum grade of C or ENG 1050 with a minimum grade of C or College Level Exam Program with a test score minimum of BC-BD or AA Exempt from Gen Ed MACRAO with a test score minimum of 100 or Michigan Transfer Agreement with a test score minimum of 100 or BA Competencies Waiver with a test score minimum of 100

ENG 2585 Literature and War Cr. 3
Satisfies General Education Requirement: Cultural Inquiry
Examines the experiences and effects of war through close reading of literary texts and works providing historical context. Offered Yearly.
Prerequisite: ENG 1020 with a minimum grade of C

ENG 2670 Introduction to Canadian Studies Cr. 3
Satisfies General Education Requirement: Foreign Culture, Global Learning Inquiry
Survey of Canada in its cultural, literary, historical, geographical and political aspects; key concepts and social patterns that define the Canadian experience. Offered Yearly.
Equivalent: GPH 2700, HIS 2700, PS 2700

ENG 2720 Basic Concepts in Linguistics Cr. 3
Satisfies General Education Requirement: Cultural Inquiry, Philosophy Letters
Analysis of the structure and use of language, focusing on English, from the standpoint of current linguistic practice. Topics include: phonetics and sound structure, word structure, syntax, semantics, language origin and history, dialects, language learning, animal communication, and language in social interaction. Offered Yearly.
Equivalent: LIN 2720

ENG 2730 Languages of the World Cr. 3
Satisfies General Education Requirement: Foreign Culture, Global Learning Inquiry
Survey of structure of major language families of the world, western and non-western; interrelationships of language and culture; universals and variations of universals in language and culture. Offered Yearly.
Equivalent: LIN 2730

ENG 2800 Techniques of Imaginative Writing Cr. 3
Satisfies General Education Requirement: Cultural Inquiry
Writing in various creative forms. Frequent individual conferences and student readings for class criticism. Offered Fall, Winter.
Prerequisites: ENG 1020 with a minimum grade of C or ENG 1050 with a minimum grade of C or College Level Exam Program with a test score minimum of BC-BD or AA Exempt from Gen Ed MACRAO with a test score minimum of 100 or Michigan Transfer Agreement with a test score minimum of 100 or BA Competencies Waiver with a test score minimum of 100

ENG 3010 Intermediate Writing Cr. 3
Satisfies General Education Requirement: Intermediate Comp Pre-2018, Intermediate Comp Post-2018
Course in reading, research and writing for upper-level students. Emphasis on conducting research by drawing from the sciences, social sciences, humanities, and professions in preparation for Writing Intensive courses in the majors. Offered Every Term.
Prerequisites: ENG 1020 with a minimum grade of C or ENG 1050 with a minimum grade of C or College Level Exam Program with a test score minimum of BC-BD or AA Exempt from Gen Ed MACRAO with a test score minimum of 100 or Michigan Transfer Agreement with a test score minimum of 100 or BA Competencies Waiver with a test score minimum of 100

ENG 3020 Writing and Community Cr. 3
Satisfies General Education Requirement: Intermediate Comp Pre-2018, Intermediate Comp Post-2018
Students develop and write about community-based service-learning projects. Requires community-based work outside of normal class time across the semester. Satisfies the Honors College service-learning requirement. Offered Fall, Winter.
Prerequisites: ENG 1020 with a minimum grade of C or ENG 1050 with a minimum grade of C or College Level Exam Program with a test score minimum of BC-BD or AA Exempt from Gen Ed MACRAO with a test score minimum of 100 or Michigan Transfer Agreement with a test score minimum of 100 or BA Competencies Waiver with a test score minimum of 100
Restriction(s): Enrollment is limited to Undergraduate level students.

ENG 3050 Technical Communication I: Reports Cr. 3
Satisfies General Education Requirement: Intermediate Comp Pre-2018, Intermediate Comp Post-2018
Instruction in basic technical writing skills. Requirements include writing summaries, letters, memos, instructions, and technical reports. Topics include audience and purpose analysis, textual and visual aspects of document design, and formatting. Offered Every Term.
Prerequisites: ENG 1020 with a minimum grade of C or ENG 1050 with a minimum grade of C or College Level Exam Program with a test score minimum of BC-BD or AA Exempt from Gen Ed MACRAO with a test score minimum of 100 or Michigan Transfer Agreement with a test score minimum of 100 or BA Competencies Waiver with a test score minimum of 100

ENG 3060 Technical Communication II: Presentations Cr. 3
Satisfies General Education Requirement: Oral Communication Competency
Instruction in basic technical presentation skills. Requirements include informative presentations, oral briefings, needs assessments, progress reports, and formal proposals. Topics include collaborative teamwork, audience and purpose analysis, textual and visual aspects of presentation design, and formatting. Offered Every Term.
Prerequisites: AFS 2390 with a minimum grade of C or ENG 2390 with a minimum grade of C or ENG 3010 with a minimum grade of C or ENG 3020 with a minimum grade of C or ENG 3050 with a minimum grade of C

ENG 3085 Introduction to Rhetoric and Writing Cr. 3
Introduction to the theories and practice of rhetoric and writing studies. Attention to the scholarly study of persuasive discourse and the role of rhetoric in English studies. Offered Yearly.
Prerequisites: ENG 1020 with a minimum grade of C or ENG 1050 with a minimum grade of C or College Level Exam Program with a test score minimum of BC-BD or AA Exempt from Gen Ed MACRAO with a test score minimum of 100 or Michigan Transfer Agreement with a test score minimum of 100 or BA Competencies Waiver with a test score minimum of 100
Restriction(s): Enrollment is limited to Undergraduate level students.

ENG 3090 Introduction to Cultural Studies Cr. 3
Introduction to the theories and practices of cultural studies. Examination of key theoretical terms and debates, to be put into critical practice through readings of various cultural forms. Offered Yearly.
Prerequisites: ENG 1020 with a minimum grade of C or ENG 1050 with a minimum grade of C or College Level Exam Program with a test score minimum of BC-BD or AA Exempt from Gen Ed MACRAO with a test score minimum of 100 or Michigan Transfer Agreement with a test score minimum of 100 or BA Competencies Waiver with a test score minimum of 100
Restriction(s): Enrollment is limited to Undergraduate level students.

ENG 3100 Introduction to Literary Studies Cr. 3
Introduction to the theories and practices of literary studies. Practice in responding to, analyzing, and writing about literary texts. Offered Fall, Winter.
Prerequisites: ENG 1020 with a minimum grade of C or ENG 1050 with a minimum grade of C or College Level Exam Program with a test score minimum of BC-BD or AA Exempt from Gen Ed MACRAO with a test score minimum of 100 or Michigan Transfer Agreement with a test score minimum of 100 or BA Competencies Waiver with a test score minimum of 100

ENG 3110 English Literature to 1700 Cr. 3
Satisfies General Education Requirement: Philosophy Letters
Historical survey of British literature from the medieval period to 1700. Offered Fall, Winter.
Prerequisites: ENG 1020 with a minimum grade of C or ENG 1050 with a minimum grade of C or College Level Exam Program with a test score minimum of BC-BD or AA Exempt from Gen Ed MACRAO with a test score minimum of 100 or Michigan Transfer Agreement with a test score minimum of 100 or BA Competencies Waiver with a test score minimum of 100

ENG 3120 English Literature after 1700 Cr. 3
Satisfies General Education Requirement: Philosophy Letters
Historical survey of British literature from 1700 to the present. Offered Fall, Winter.
Prerequisites: ENG 1020 with a minimum grade of C or ENG 1050 with a minimum grade of C or College Level Exam Program with a test score minimum of BC-BD or AA Exempt from Gen Ed MACRAO with a test score minimum of 100 or Michigan Transfer Agreement with a test score minimum of 100 or BA Competencies Waiver with a test score minimum of 100

ENG 3130 American Literature to 1865 Cr. 3
Satisfies General Education Requirement: Philosophy Letters
Historical survey of American literature from its beginnings to 1865. Offered Yearly.
Prerequisites: ENG 1020 with a minimum grade of C or ENG 1050 with a minimum grade of C or College Level Exam Program with a test score minimum of BC-BD or AA Exempt from Gen Ed MACRAO with a test score minimum of 100 or Michigan Transfer Agreement with a test score minimum of 100 or BA Competencies Waiver with a test score minimum of 100
Restriction(s): Enrollment is limited to Undergraduate level students.

ENG 3140 American Literature after 1865 Cr. 3
Satisfies General Education Requirement: Philosophy Letters
Historical survey of American literature from the Civil War to the present. Offered Fall, Winter.
Prerequisites: ENG 1020 with a minimum grade of C or ENG 1050 with a minimum grade of C or College Level Exam Program with a test score minimum of BC-BD or AA Exempt from Gen Ed MACRAO with a test score minimum of 100 or Michigan Transfer Agreement with a test score minimum of 100 or BA Competencies Waiver with a test score minimum of 100

ENG 3180 Rhetoric to 1800 Cr. 3
Historical survey of rhetoric from ancient cultures to 1800. Offered Yearly.
Prerequisite: ENG 1020 with a minimum grade of C

ENG 3190 Rhetoric after 1800 Cr. 3
Historical survey of rhetoric from 1800 to the present. Offered Yearly.
Prerequisite: ENG 1020 with a minimum grade of C

ENG 3200 Grant Writing Cr. 3
Prepares students to write successful grant applications in a range of professional situations. Offered Fall.
Prerequisite: ENG 1020 with a minimum grade of C

ENG 3250 Technical and Professional Editing Cr. 3
Introduces students to technical and professional editing practices. Offered Fall.
Prerequisite: ENG 1020 with a minimum grade of C

ENG 3470 Survey of African-American Literature Cr. 3
Satisfies General Education Requirement: Philosophy Letters
Historical survey of African-American literature from the early American period to the present. Offered Every Other Year.
Prerequisites: ENG 1020 with a minimum grade of C or ENG 1050 with a minimum grade of C or College Level Exam Program with a test score minimum of BC-BD or AA Exempt from Gen Ed MACRAO with a test score minimum of 100 or Michigan Transfer Agreement with a test score minimum of 100 or BA Competencies Waiver with a test score minimum of 100

ENG 3700 Structure of English Cr. 3
Survey of the major structural features of Standard English at the levels of sounds, words, and sentences, using concepts and methods from the field of linguistics. Special attention to relation of spoken to written English. Offered Yearly.
Equivalent: LIN 3700

ENG 3800 Introduction to Creative Writing Cr. 3
Introduction to the practice of creative writing in traditional genres (verse, prose, drama) and also mixed forms. Attention to the place of creative writing in the study of literature and culture. Frequent individual conferences and class critique of student writing. Offered Fall, Winter.
Prerequisites: ENG 1020 with a minimum grade of C or ENG 1050 with a minimum grade of C or College Level Exam Program with a test score minimum of BC-BD or AA Exempt from Gen Ed MACRAO with a test score minimum of 100 or Michigan Transfer Agreement with a test score minimum of 100 or BA Competencies Waiver with a test score minimum of 100
Restriction(s): Enrollment is limited to Undergraduate level students.

ENG 3810 Poetry Writing Cr. 3
Instruction and practice in the art of English and American poetic forms: patterns of sound, quantitative values, diction, metaphors and images. Offered Yearly.
Prerequisites: ENG 1020 with a minimum grade of C or ENG 1050 with a minimum grade of C or College Level Exam Program with a test score minimum of BC-BD or AA Exempt from Gen Ed MACRAO with a test score minimum of 100 or Michigan Transfer Agreement with a test score minimum of 100 or BA Competencies Waiver with a test score minimum of 100

ENG 3820 Fiction Writing Cr. 3
Fundamentals of fiction, mainly the short story. Analysis of stories by established writers and by students. Frequent individual conferences. Offered Yearly.
Prerequisites: ENG 1020 with a minimum grade of C or ENG 1050 with a minimum grade of C or College Level Exam Program with a test score minimum of BC-BD or AA Exempt from Gen Ed MACRAO with a test score minimum of 100 or Michigan Transfer Agreement with a test score minimum of 100 or BA Competencies Waiver with a test score minimum of 100

ENG 4990 Directed Study: Honors Program Cr. 1-3
Offered Every Term.
Repeatable for 6 Credits

ENG 4991 Honors Seminar Cr. 3
Fulfills senior seminar requirement for Honors students. Offered Every Term.
Prerequisites: AFS 2390 with a minimum grade of C or ENG 2390 with a minimum grade of C or ENG 3010 with a minimum grade of C or ENG 3020 with a minimum grade of C or ENG 3050 with a minimum grade of C
Restriction(s): Enrollment limited to students with a class of Senior.
Repeatable for 6 Credits

ENG 4992 Honors Project Cr. 3
Substantial scholarly project in literature, rhetoric, film, or a body of creative writing accompanied by an essay. Offered Every Term.
Repeatable for 6 Credits

ENG 5010 Advanced Expository Writing Cr. 3
Advanced study and practice in various forms of expository prose, especially the essay. Topics to be announced in Schedule of Classes. Offered Intermittently.
Prerequisites: AFS 2390 with a minimum grade of C or ENG 2390 with a minimum grade of C or ENG 3010 with a minimum grade of C or ENG 3020 with a minimum grade of C or ENG 3050 with a minimum grade of C
Repeatable for 6 Credits

ENG 5020 Topics in Media and Modern Culture Cr. 3
Topics may include: history of television, the internet, video games, other visual media; topics announced in Schedule of Classes. Offered Every Other Year.
Prerequisites: AFS 2390 with a minimum grade of C or ENG 2390 with a minimum grade of C or ENG 3010 with a minimum grade of C or ENG 3020 with a minimum grade of C or ENG 3050 with a minimum grade of C
Course Material Fees: $20
Repeatable for 9 Credits

ENG 5030 Topics in Women's Studies Cr. 3
Thematic, critical or generic study of women and literature. Topics to be announced in Schedule of Classes. Offered Yearly.
Prerequisites: AFS 2390 with a minimum grade of C or ENG 2390 with a minimum grade of C or ENG 3010 with a minimum grade of C or ENG 3020 with a minimum grade of C or ENG 3050 with a minimum grade of C
Equivalent: GSW 5030
Repeatable for 9 Credits

ENG 5035 Topics in Gender and Sexuality Studies Cr. 3
Advanced course on issues of sexuality and gender as mediated through literary and cultural study. Attention to critical theory as well as various literary and cultural forms. Topics to be announced in Schedule of Classes. Offered Yearly.
Prerequisites: AFS 2390 with a minimum grade of C or ENG 2390 with a minimum grade of C or ENG 3010 with a minimum grade of C or ENG 3020 with a minimum grade of C or ENG 3050 with a minimum grade of C
Equivalent: GSW 5035
Repeatable for 9 Credits

ENG 5040 Film Criticism and Theory Cr. 4
Survey of the major film theories from Munsterberg to contemporary film semiotics; examination of various attempts made at a systematic understanding of the cinema. Offered Yearly.
Prerequisites: AFS 2390 with a minimum grade of C or ENG 2390 with a minimum grade of C or ENG 3010 with a minimum grade of C or ENG 3020 with a minimum grade of C or ENG 3050 with a minimum grade of C
Course Material Fees: $20

ENG 5050 Historical Topics in Film and Media Cr. 4
Specialized, in-depth topics in film cycles and movements of a historical nature, such as French new wave, film noir, etc. Topics to be announced in the Schedule of Classes. Offered Every Other Year.
Prerequisites: AFS 2390 with a minimum grade of C or ENG 2390 with a minimum grade of C or ENG 3010 with a minimum grade of C or ENG 3020 with a minimum grade of C or ENG 3050 with a minimum grade of C
Course Material Fees: $20
Repeatable for 12 Credits

ENG 5060 Styles and Genres in Film Cr. 4
Study of significant works within selected genres, such as the western, horror, comedy, animation. Topics to be announced in the Schedule of Classes. Offered Yearly.
Prerequisites: AFS 2390 with a minimum grade of C or ENG 2390 with a minimum grade of C or ENG 3010 with a minimum grade of C or ENG 3020 with a minimum grade of C or ENG 3050 with a minimum grade of C
Course Material Fees: $20
Repeatable for 12 Credits

ENG 5065 Identity and Difference in Media Cr. 4
Issues surrounding race, class, gender and sexuality in Hollywood films. Offered Yearly.
Prerequisites: ENG 2390 or ENG 3010 or ENG 3020 or ENG 3050

ENG 5070 Topics in Film and Media Cr. 4
Critical and theoretical topics including style and work of specific filmmakers and philosophical approaches to film and other media. Topics to be announced in the Schedule of Classes. Offered Yearly.
Prerequisites: AFS 2390 with a minimum grade of C or ENG 2390 with a minimum grade of C or ENG 3010 with a minimum grade of C or ENG 3020 with a minimum grade of C or ENG 3050 with a minimum grade of C
Course Material Fees: $20
Repeatable for 12 Credits

ENG 5075 Topics in New Media Cr. 3
Advanced course on the expressive forms of new media. Attention to recent work in humanities computing, digital humanities, and/or new media studies. Topics to be announced in Schedule of Classes. Offered Yearly.
Prerequisites: AFS 2390 with a minimum grade of C or ENG 2390 with a minimum grade of C or ENG 3010 with a minimum grade of C or ENG 3020 with a minimum grade of C or ENG 3050 with a minimum grade of C
Repeatable for 9 Credits

ENG 5080 Topics in Global and Transnational Studies Cr. 3
Study of literature and culture from a global and/or transnational perspective. Topics to be announced in the Schedule of Classes. Offered Yearly.
Prerequisites: AFS 2390 with a minimum grade of C or ENG 2390 with a minimum grade of C or ENG 3010 with a minimum grade of C or ENG 3020 with a minimum grade of C or ENG 3050 with a minimum grade of C
Repeatable for 9 Credits

ENG 5090 Topics in Literary and Cultural Theory Cr. 3
Study of literary and cultural theory in various contexts -- urban, metropolitan, ethnic, global -- with reference to primary texts. Topics to be announced in the Schedule of Classes. Offered Yearly.
Prerequisites: AFS 2390 with a minimum grade of C or ENG 2390 with a minimum grade of C or ENG 3010 with a minimum grade of C or ENG 3020 with a minimum grade of C or ENG 3050 with a minimum grade of C
Repeatable for 9 Credits

ENG 5095 Topics in Visual Culture Cr. 3
Advanced course in visual culture and its theory, and in the practice of reading images in a variety of literary and visual forms. Topics to be announced in the schedule of classes. Offered Yearly.
Prerequisites: AFS 2390 with a minimum grade of C or ENG 2390 with a minimum grade of C or ENG 3010 with a minimum grade of C or ENG 3020 with a minimum grade of C or ENG 3050 with a minimum grade of C
Repeatable for 9 Credits

ENG 5120 Topics in Medieval Literature Cr. 3
Themes, genres, writers in English and continental Medieval literature. Topics to be announced in the Schedule of Classes. Offered Intermittently.
Prerequisites: AFS 2390 with a minimum grade of C or ENG 2390 with a minimum grade of C or ENG 3010 with a minimum grade of C or ENG 3020 with a minimum grade of C or ENG 3050 with a minimum grade of C
Repeatable for 9 Credits

ENG 5150 Shakespeare Cr. 3
For English majors and others interested in more intensive study. Some attention to Shakespearean scholarship. Offered Every Other Year.
Prerequisites: AFS 2390 with a minimum grade of C or ENG 2390 with a minimum grade of C or ENG 3010 with a minimum grade of C or ENG 3020 with a minimum grade of C or ENG 3050 with a minimum grade of C

ENG 5180 Milton Cr. 3
Emphasis on Milton's major poetry with attention to his prose and to historical background. Offered Intermittently.
Prerequisites: AFS 2390 with a minimum grade of C or ENG 2390 with a minimum grade of C or ENG 3010 with a minimum grade of C or ENG 3020 with a minimum grade of C or ENG 3050 with a minimum grade of C

ENG 5200 Restoration and Eighteenth Century Literature Cr. 3
A survey of English literature from 1660 to 1800. Readings from authors such as John Dryden, Aphra Behn, Mary Astell, Alexander Pope, Lady Mary Montagu, Jonathan Swift. Offered Every Other Year.
Prerequisites: AFS 2390 with a minimum grade of C or ENG 2390 with a minimum grade of C or ENG 3010 with a minimum grade of C or ENG 3020 with a minimum grade of C or ENG 3050 with a minimum grade of C

ENG 5260 Literature of the Romantic Period Cr. 3
A survey of English literature from 1789-1832. Emphasis on the major poets (Blake, Wordsworth, Coleridge, Keats, Shelley and Byron), with some attention to the major essayists (De Quincey, Hazlitt and Lamb) and novelists (Austen and Scott). Offered Every Other Year.
Prerequisites: AFS 2390 with a minimum grade of C or ENG 2390 with a minimum grade of C or ENG 3010 with a minimum grade of C or ENG 3020 with a minimum grade of C or ENG 3050 with a minimum grade of C

ENG 5270 Literature of the Victorian Period Cr. 3
A survey of English literature from 1832-1901. Emphasis on major poets (Tennyson, Arnold, Swinburne), novelists (Dickens, Eliot, Hardy), and prose writers (Carlyle and Ruskin). Offered Every Other Year.
Prerequisites: AFS 2390 with a minimum grade of C or ENG 2390 with a minimum grade of C or ENG 3010 with a minimum grade of C or ENG 3020 with a minimum grade of C or ENG 3050 with a minimum grade of C

ENG 5300 Twentieth Century British Literature Cr. 3
Selected works in all genres from 1900 to the present. Offered Every Other Year.
Prerequisites: AFS 2390 with a minimum grade of C or ENG 2390 with a minimum grade of C or ENG 3010 with a minimum grade of C or ENG 3020 with a minimum grade of C or ENG 3050 with a minimum grade of C

ENG 5420 American Literature: 1865-1914 Cr. 3
Survey of important literary texts that arose from cultural phenomena like post-reconstruction, urbanization, immigration, the suffrage movement, and native rights. Literary movements like Realism and Naturalism will be studied as well as influential writers such as Cahan, Chopin, Dreiser and Dunbar. Offered Intermittently.
Prerequisites: AFS 2390 with a minimum grade of C or ENG 2390 with a minimum grade of C or ENG 3010 with a minimum grade of C or ENG 3020 with a minimum grade of C or ENG 3050 with a minimum grade of C

ENG 5450 Modern American Literature Cr. 3
Survey of culturally-significant writers, themes and movements since 1914, such as: the Harlem Renaissance, Modernism, Postmodernism; authors like Ellison, Hemingway, Morrison, Stein. Offered Yearly.
Prerequisites: AFS 2390 with a minimum grade of C or ENG 2390 with a minimum grade of C or ENG 3010 with a minimum grade of C or ENG 3020 with a minimum grade of C or ENG 3050 with a minimum grade of C

ENG 5480 Topics in African American Literature Cr. 3
Thematic, generic or historical perspectives: topics such as early black writers, Harlem Renaissance, African-American poetry, contemporary black writers. Topics to be announced in the Schedule of Classes. Offered Yearly.
Prerequisites: AFS 2390 with a minimum grade of C or ENG 2390 with a minimum grade of C or ENG 3010 with a minimum grade of C or ENG 3020 with a minimum grade of C or ENG 3050 with a minimum grade of C
Repeatable for 9 Credits

ENG 5490 Topics in American Literature Cr. 3
Thematic, generic, or historical perspectives; may cover writers of different periods. Topics such as American humor, the theme of work, Southern literature, the city in literature. Topics to be announced in the Schedule of Classes. Offered Intermittently.
Prerequisites: AFS 2390 with a minimum grade of C or ENG 2390 with a minimum grade of C or ENG 3010 with a minimum grade of C or ENG 3020 with a minimum grade of C or ENG 3050 with a minimum grade of C
Repeatable for 9 Credits

ENG 5500 Topics in English and American Literature Cr. 3
Generic, historical or thematic perspectives. Topics to be announced in the Schedule of Classes. Offered Every Other Year.
Prerequisites: AFS 2390 with a minimum grade of C or ENG 2390 with a minimum grade of C or ENG 3010 with a minimum grade of C or ENG 3020 with a minimum grade of C or ENG 3050 with a minimum grade of C
Repeatable for 9 Credits

ENG 5510 Major Authors Cr. 3
Advanced study of one author, a pair of related authors, or a coterie of authors. Topics to be announced in the Schedule of Classes. Offered Intermittently.
Prerequisites: AFS 2390 with a minimum grade of C or ENG 2390 with a minimum grade of C or ENG 3010 with a minimum grade of C or ENG 3020 with a minimum grade of C or ENG 3050 with a minimum grade of C
Repeatable for 9 Credits

ENG 5520 Irish Literature Cr. 3
Major twentieth century Irish writers in the context of Irish history and politics, such as W.B. Yeats, James Joyce, major dramatists. Offered Intermittently.
Prerequisites: AFS 2390 with a minimum grade of C or ENG 2390 with a minimum grade of C or ENG 3010 with a minimum grade of C or ENG 3020 with a minimum grade of C or ENG 3050 with a minimum grade of C

ENG 5565 Postmodernism Cr. 3
Advanced study of postmodern literature and culture, with attention to its international development and to critical theory. Possible authors: Beckett, Calvino, Nabokov, Acker, DeLillo, Pynchon. Offered Every Other Year.
Prerequisites: AFS 2390 with a minimum grade of C or ENG 2390 with a minimum grade of C or ENG 3010 with a minimum grade of C or ENG 3020 with a minimum grade of C or ENG 3050 with a minimum grade of C

ENG 5595 World Literature in English Cr. 3
Advanced course in the study of literatures written in English beyond the United States and Great Britain. Attention to globalization, post-colonialism, and transnationalism. Authors may include: Rushdie, Coetzee, Kincaid, Kureishi, Ondaatje, Achebe, and Gordimer. Offered Yearly.
Prerequisites: AFS 2390 with a minimum grade of C or ENG 2390 with a minimum grade of C or ENG 3010 with a minimum grade of C or ENG 3020 with a minimum grade of C or ENG 3050 with a minimum grade of C

ENG 5680 Children's Literature Cr. 3
Study of children's literature from a literary perspective. Attention to the place of children's literature in literary history, its relationship to canonical literary works, and the development of its specific literary forms and genres. Offered Intermittently.
Prerequisites: AFS 2390 with a minimum grade of C or ENG 2390 with a minimum grade of C or ENG 3010 with a minimum grade of C or ENG 3020 with a minimum grade of C or ENG 3050 with a minimum grade of C

ENG 5690 History and Future of the Book Cr. 3
Study of significant moments in the history of reading, writing, and the production and dissemination of texts. Attention to orality and literacy, authorship and originality, publishing and economics, as well as writing technologies past and present. Offered Intermittently.
Prerequisites: AFS 2390 with a minimum grade of C or ENG 2390 with a minimum grade of C or ENG 3010 with a minimum grade of C or ENG 3020 with a minimum grade of C or ENG 3050 with a minimum grade of C

ENG 5695 Topics in Writing and Publishing Cr. 3
Study of recent trends and issues within the publishing industry, textual editing, scholarly publishing, print and electronic publication formats, and history and future of publishing. Topics to be announced in Schedule of Classes. Offered Every Other Year.
Prerequisites: AFS 2390 with a minimum grade of C or ENG 2390 with a minimum grade of C or ENG 3010 with a minimum grade of C or ENG 3020 with a minimum grade of C or ENG 3050 with a minimum grade of C
Repeatable for 9 Credits

ENG 5700 Introduction to Linguistic Theory Cr. 3
Introduction to the scientific study of language and methodologies of linguistic analysis: phonetics and phonology, morphology, syntax and semantics. Offered Yearly.
Equivalent: LIN 5700

ENG 5710 Phonology Cr. 3
The sound systems of a variety of human languages compared and contrasted in an introduction to the diversity and similarities in human sound systems. Theories of the nature of sound systems and methods of analysis in phonology and morphophonology will be presented. Offered Yearly.
Prerequisites: LIN 5700 with a minimum grade of D- or ENG 5700 with a minimum grade of D- or LIN 2720 with a minimum grade of D- or ENG 2720 with a minimum grade of D-
Equivalent: LIN 5290

ENG 5715 Morphology Cr. 3
Morphology is a core area of Linguistics. The course will introduce the basic issues in the study of the internal structure of words, as well as the analytical techniques applied to morphological analysis. Students will learn how to analyze words of various (Indo-European and non-Indo-European) languages into morphemes, as well as to recognize morphological patterns and to utilize theoretical concepts in order to describe and analyze such patterns. In particular, the course will develop a theory of morphology in generative grammar, paying special attention to the question of whether particular morphological phenomena are primarily syntactic or primarily phonological in nature. Offered Fall.
Prerequisites: ENG 5700 with a minimum grade of D- or ENG 2720 with a minimum grade of D- or LIN 2720 with a minimum grade of D- or LIN 5700 with a minimum grade of D-
Equivalent: LIN 5715

ENG 5720 Linguistics and Education Cr. 3
Introduction to linguistics with emphasis on applications to education. Offered Yearly.
Equivalent: LIN 5720

ENG 5730 English Grammar Cr. 3
Comprehensive analysis of English sentence structure and parts of speech using the terminology and descriptive approach of traditional grammar. Offered Yearly.
Equivalent: LIN 5730

ENG 5740 Syntax Cr. 3
The theory of grammatical systems examined through analysis of sentence formation in a variety of human languages, diversity and universals in grammar, and theories of syntax. Offered Yearly.
Prerequisites: LIN 5700 with a minimum grade of D- or ENG 5700 with a minimum grade of D- or LIN 2720 with a minimum grade of D- or ENG 2720 with a minimum grade of D-
Equivalent: LIN 5300

ENG 5745 Semantics Cr. 3
Semantics is a core area of Linguistics. This course investigates meaning in natural language. It examines two foundational assumptions of natural language semantics: (i) that the meaning of a declarative sentence is its truth conditions and (ii) that the truth conditions of an expression are determined compositionally (that is, they are determined as a function of its parts and how they are put together). Students will then learn to distinguish between the entailments, implicatures, and presuppositions of an expression, where only the first are part of the expression's truth conditions. Offered Winter.
Prerequisites: ENG 5700 with a minimum grade of D- or ENG 2720 with a minimum grade of D- or LIN 2720 with a minimum grade of D- or LIN 5700 with a minimum grade of D-
Equivalent: LIN 5745

ENG 5750 Theories of Second Language Acquisition Cr. 3
The complex processes involved in learning a foreign/second language, including the nature of inter language and the individual and collective factors influencing learner success and the effectiveness of instruction. Offered Yearly.
Equivalent: LGL 5750, LIN 5750

ENG 5760 American Dialects Cr. 3
Survey of chief social and geographic dialects of American English and introduction to theory of language variation. Offered Intermittently.
Equivalent: LIN 5760

ENG 5770 Sociolinguistics Cr. 3
Identification of sociolinguistic principles used by English speakers and writers in choosing among the different English codes, styles, registers and social dialects in American and other communities. Offered Every Other Year.
Equivalent: LIN 5770

ENG 5785 Academic Writing for Graduate Students Cr. 3
Emphasis on learning and executing written genres common to research and presentation activities in graduate school. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: GS 5785
Repeatable for 9 Credits

ENG 5790 Writing Theory Cr. 3
Review of linguistic, rhetorical, and/or literary theories of written language. Analysis of the principles, purposes, types, and modes of written discourse. Offered Yearly.
Prerequisites: AFS 2390 with a minimum grade of C or ENG 2390 with a minimum grade of C or ENG 3010 with a minimum grade of C or ENG 3020 with a minimum grade of C or ENG 3050 with a minimum grade of C

ENG 5795 Topics in Rhetoric and Writing Cr. 3
Advanced course in rhetoric and writing. Attention to recent work in composition studies, rhetorical theory, and writing. Topics to be announced in Schedule of Classes. Offered Intermittently.
Prerequisites: AFS 2390 with a minimum grade of C or ENG 2390 with a minimum grade of C or ENG 3010 with a minimum grade of C or ENG 3020 with a minimum grade of C or ENG 3050 with a minimum grade of C
Repeatable for 9 Credits

ENG 5820 Internship Practicum Cr. 3
Students work 8-20 hours per week as tutors, writers, editors or researchers in publishing firms,businesses, government, and community organizations. Classroom sessions focus on reading and writing analytical texts related to workplace experience, and creating a portfolio of works created from the internship. Offered Every Term.
Prerequisites: AFS 2390 with a minimum grade of C or ENG 2390 with a minimum grade of C or ENG 3010 with a minimum grade of C or ENG 3020 with a minimum grade of C or ENG 3050 with a minimum grade of C
Repeatable for 6 Credits

ENG 5830 Introduction to Technical and Professional Writing Practices Cr. 3
Intensive writing course that develops communication skills used in the workplace. Designed for students preparing to become technical writers/editors and students who will write as part of their professional work. Offered Every Other Year.
Prerequisites: AFS 2390 with a minimum grade of C or ENG 2390 with a minimum grade of C or ENG 3010 with a minimum grade of C or ENG 3020 with a minimum grade of C or ENG 3050 with a minimum grade of C

ENG 5840 Theoretical Approaches to Technical and Professional Writing Cr. 3
Survey of the theory and practice of technical and professional communication. Topics include the rhetoric and teaching of technical communication, analysis of on-the-job writing and rhetorical situations, and use of new communications technology. Some technical report writing, a research paper, and extensive reading and writing. Offered Every Other Year.
Prerequisites: AFS 2390 with a minimum grade of C or ENG 2390 with a minimum grade of C or ENG 3010 with a minimum grade of C or ENG 3020 with a minimum grade of C or ENG 3050 with a minimum grade of C

ENG 5850 Introduction to Scholarly Writing for Non-native English Speakers Cr. 2
Intensive practice in writing at the graduate level for non-native speakers of English. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Graduate level students.

ENG 5860 Topics in Creative Writing Cr. 3
Topics include new genres, new media, and writing for public audiences. Models drawn from works written in diverse communities and cultures. Frequent individual conferences. Offered Yearly.
Prerequisites: AFS 2390 with a minimum grade of C or ENG 2390 with a minimum grade of C or ENG 3010 with a minimum grade of C or ENG 3020 with a minimum grade of C or ENG 3050 with a minimum grade of C or ENG 3800 with a minimum grade of B
Repeatable for 9 Credits

ENG 5870 Poetry Writing Workshop Cr. 3
The writing of poetry, conducted on a seminar basis; discussion and criticism of the work of students in the course. Frequent individual conferences. Offered Yearly.
Prerequisites: AFS 2390 with a minimum grade of C or ENG 2390 with a minimum grade of C or ENG 3010 with a minimum grade of C or ENG 3020 with a minimum grade of C or ENG 3050 with a minimum grade of C or ENG 3800 with a minimum grade of B
Repeatable for 6 Credits

ENG 5880 Fiction Writing Workshop Cr. 3
The writing of fiction, conducted on a seminar basis; discussion and criticism of the work of students in the course. Frequent individual conferences. Offered Yearly.
Prerequisites: AFS 2390 with a minimum grade of C or ENG 2390 with a minimum grade of C or ENG 3010 with a minimum grade of C or ENG 3020 with a minimum grade of C or ENG 3050 with a minimum grade of C or ENG 3800 with a minimum grade of B
Repeatable for 6 Credits

ENG 5885 Topics in Creative Non-Fiction Writing Cr. 3
Study and practice of hybrid forms that blend reportage and imaginative writing. Attention to essays, memoir, and personal writing. Frequent individual conferences. Offered Yearly.
Prerequisites: AFS 2390 with a minimum grade of C or ENG 2390 with a minimum grade of C or ENG 3010 with a minimum grade of C or ENG 3020 with a minimum grade of C or ENG 3050 with a minimum grade of C or ENG 3800 with a minimum grade of B
Repeatable for 9 Credits

ENG 5990 Directed Study in English Cr. 1-3
Advanced work for superior students whose program cannot be adequately met by scheduled classes. Course requires substantial written work. Offered Every Term.
Prerequisites: AFS 2390 with a minimum grade of C or ENG 2390 with a minimum grade of C or ENG 3010 with a minimum grade of C or ENG 3020 with a minimum grade of C or ENG 3050 with a minimum grade of C
Repeatable for 6 Credits

ENG 5992 Senior Seminar Cr. 3
In-depth study and discussion of topics to be announced in the Schedule of Classes. Attention to the use of primary and secondary sources in research and writing. Each student produces a substantial research project. Offered for undergraduate credit only. Offered Fall, Winter.
Prerequisites: AFS 2390 with a minimum grade of C or ENG 2390 with a minimum grade of C or ENG 3010 with a minimum grade of C or ENG 3020 with a minimum grade of C or ENG 3050 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment is limited to students with a major in 2nd English or English.
Repeatable for 6 Credits

ENG 5993 Writing Intensive Course in English Cr. 0
Satisfies General Education Requirement: Writing Intensive Competency
Disciplinary writing assignments under the direction of a faculty member. Satisfies the University General Education Writing Intensive Course in the Major requirement. Required for all majors. Offered Every Term.
Prerequisites: AFS 2390 with a minimum grade of C or ENG 2390 with a minimum grade of C or ENG 3010 with a minimum grade of C or ENG 3020 with a minimum grade of C or ENG 3050 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students.

ENG 6001 Pedagogical Practicum I Cr. 3
Instruction and resources to prepare newly-appointed graduate teaching assistants for teaching in the Wayne State composition program. Offered for graduate credit only. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students in the Department of English.

ENG 6002 Teaching of Literary and Cultural Studies Cr. 3
Instruction in the teaching of literary and cultural studies through both individualized and group training. Offered for graduate credit only. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Graduate level students.

ENG 6004 Pedagogical Practicum II Cr. 3
Instruction and resources to support graduate teaching assistants during their first semester teaching in the Wayne State Composition Program. Offered for graduate credit only. Offered Winter.
Prerequisite: ENG 6001 with a minimum grade of B-
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students in the Department of English.

ENG 6005 Teaching Developmental Writing Cr. 3
Emphasis on researching pedagogical strategies to develop course materials for the teaching of a developmental writing class. Offered Intermittently.
Prerequisites: AFS 2390 with a minimum grade of C or ENG 2390 with a minimum grade of C or ENG 3010 with a minimum grade of C or ENG 3020 with a minimum grade of C or ENG 3050 with a minimum grade of C

ENG 6010 Tutoring Practicum Cr. 3
Integration of theories of language, learning and composition into a teaching practicum for prospective teachers at the secondary level and beyond. Offered Yearly.
Prerequisites: AFS 2390 with a minimum grade of C or ENG 2390 with a minimum grade of C or ENG 3010 with a minimum grade of C or ENG 3020 with a minimum grade of C or ENG 3050 with a minimum grade of C
Restriction(s): Enrollment limited to students with a class of Applicant Masters, Junior, Senior or Post Bachelor.

ENG 6720 Topics in Language Cr. 3
Topics such as: pragmatics, historical linguistics, history of English, language and gender, language and variation, language and evolution. Topics to be announced in the Schedule of Classes. Offered Yearly.
Equivalent: ENG 5720, LIN 6720
Repeatable for 12 Credits

ENG 6800 Advanced Creative Writing Cr. 3
Writing in any of the creative forms. Work by students presented in seminar meetings; frequent individual conferences. Topics to be announced in the Schedule of Classes. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 9 Credits

ENG 7001 Issues in Critical Theory Cr. 3
Training in fundamental critical and professional issues through reading and writing about problems, issues and texts central to English studies. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.

ENG 7002 History of Critical Theory Cr. 3
Instruction in the history of critical theory through examination of critical and/or representative texts in that history. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 6 Credits

ENG 7003 Contemporary Literary Theory Cr. 3
In-depth reading of and education in contemporary literary works that are important to the discipline of English studies. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 6 Credits

ENG 7004 Theoretical Issues in Cultural Studies Cr. 3
Intensive reading in and writing about central theoretical issues in cultural studies. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 6 Credits

ENG 7005 Film Theory Cr. 4
Basic knowledge of film theory; especially for students who will have a concentration in film and media studies. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 8 Credits

ENG 7006 Media Theory Cr. 4
Important issues and theories in media studies. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 8 Credits

ENG 7007 Composition Theory Cr. 3
Seminar on such topics as: the writing process, computers in composition, theory of basic writing, theory of technical/professional writing. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 6 Credits

ENG 7011 Studies in Medieval Literature Cr. 3
Selected topics such as: Arthurian legend, the alliterative revival, problems in Chaucer criticism. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 6 Credits

ENG 7012 Sixteenth-Century Literature Cr. 3
Readings in representative works in literature in English of the 16th century. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 6 Credits

ENG 7014 Seventeenth-Century Literature and Culture Cr. 3
Reading and writing about representative texts of 17th century literature in English. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 6 Credits

ENG 7015 Studies in Shakespeare Cr. 3
Special problems in current scholarship and criticism. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 6 Credits

ENG 7016 English Drama from the Medieval Cycle Plays to 1642 Cr. 3
Survey of representative English dramas from the medieval period to mid-seventeenth century. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 6 Credits

ENG 7021 Studies in Restoration and Eighteenth Century Literature and Culture Cr. 3
Studies of particular authors or genres. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 6 Credits

ENG 7022 Studies in Romantic Literature and Culture Cr. 3
Topics such as Wordsworth and Coleridge, crisis and triumph of the romantic imagination. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 6 Credits

ENG 7023 Studies in Victorian Literature and Culture Cr. 3
Poetry, non-fictional prose, drama, fiction. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 6 Credits

ENG 7024 The Rise of the Novel Cr. 3
Tracing the development of the novel. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 6 Credits

ENG 7025 Fin de Siecle Cr. 3
Studies in turn of the century literature and culture. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 6 Credits

ENG 7031 Naturalism and Realism Cr. 3
In-depth study of naturalist and realist writings, and of naturalism and realism as categories of classification. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 6 Credits

ENG 7032 Modernism and Modernity Cr. 3
Studies in modernism as a literary and cultural movement and/or in modernity as a social, economic and cultural formation. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 6 Credits

ENG 7033 Postmodernism and Postmodernity Cr. 3
Studies in postmodernism as a literary and cultural movement and/or in postmodernity as a social, economic and cultural formation. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 6 Credits

ENG 7035 Cyberculture Cr. 3
Studies in cyberculture as a literary and cultural movement. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 6 Credits

ENG 7041 Early American Literatures and Cultures Cr. 3
Studies in the literatures and cultures of the Americas from their beginnings to and/or into the nineteenth century. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 6 Credits

ENG 7042 Nineteenth-Century American Literature and Culture Cr. 3
Advanced study of such topics as Puritanism, Transcendentalism, Fugitive Slave Narratives and Indian Captivity Narratives as evidenced in such authors as Dickinson, Douglass, Franklin, Hawthorne, Hutchinson, Jacobs, Whitman. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 6 Credits

ENG 7043 Twentieth-Century American Literature and Culture Cr. 3
Advanced study of literary representations of crucial cultural issues as demonstrated among writers, movements, and selected texts. Possible writers include T.S. Eliot, Toni Morrison, Gertrude Stein; movements like Modernism and Postmodernism, and cultural phenomena like assimilation and reification may be treated. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 6 Credits

ENG 7044 African-American Literature and Culture Cr. 3
Advanced study of topics in African-American literature. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 6 Credits

ENG 7045 Ethnic American Literatures and Cultures Cr. 3
Study of the varieties of ethnic literature and culture in the Americas. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 6 Credits

ENG 7046 Comparative American Literatures and Cultures Cr. 3
Stud of the literatures and cultures of the Americas from a comparative perspective. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 6 Credits

ENG 7051 Introduction to Film and Media Studies Cr. 4
Historical and theoretical introduction to film and media studies. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 8 Credits

ENG 7053 Film and Media Genres Cr. 4
Survey of the genres of film and media studies. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 8 Credits

ENG 7056 Comparative Media Cr. 3
Instruction in media from a comparative perspective, including but not limited to film, digital, visual, and auditory media. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 6 Credits

ENG 7061 Rhetorical Theory Cr. 3
Survey of major rhetorical theories. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 6 Credits

ENG 7062 Designing Research in Composition and Rhetoric Cr. 3
Survey of major research methodologies in rhetoric and composition. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 6 Credits

ENG 7063 Historical Studies in Composition and Rhetoric Cr. 3
Survey of historical approaches to rhetoric and composition. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 6 Credits

ENG 7064 The Teaching of Writing Cr. 3
Survey of major pedagogical theories in composition studies. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 6 Credits

ENG 7065 Writing Technologies Cr. 3
Study of rhetorical and pedagogical issues related to writing and technology. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 6 Credits

ENG 7066 Writing in Multiple Settings Cr. 3
Survey of research into writing in specific settings such as urban and/or rural sites, workplaces, communities and organizations, or classrooms. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 6 Credits

ENG 7710 Advanced Studies in Linguistic Structure Cr. 3
Current issues in linguistic theory, including but not limited to topics in phonology, morphology, syntax, semantics. Topics to be announced in the Schedule of Classes. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: LIN 7710
Repeatable for 9 Credits

ENG 7720 Advanced Studies in Language Use Cr. 3
Current problems in language use, including issues in language variation, pidgins and creoles, first language acquisition, perception and production, and linguistic stylistics. Topics to be announced in the Schedule of Classes. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: LIN 7720
Repeatable for 9 Credits

ENG 7770 Discourse Analysis Cr. 3
Analysis of inter-sentential relationships and of larger patterns. Implied and actual exchanges. Information ordering. Multi-level and intersectional analysis of expository prose. Topics to be announced in the Schedule of Classes. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: LIN 7770
Repeatable for 9 Credits

ENG 7800 Seminar in Creative Writing Cr. 3
Intensive advanced study in creative writing and/or relevant critical theory. Topics such as: Writing the Novel, Narrative Perspective, Creative Text and Reader Response, to be announced in Schedule of Classes. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 9 Credits

ENG 7840 Technical and Professional Communication Cr. 3
Survey of contemporary research in technical and professional communication. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 6 Credits

ENG 7990 Directed Study in English Cr. 1-8
Advanced work for English majors whose program of study cannot be adequately met by scheduled classes. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 8 Credits

ENG 7999 Master's Essay Direction Cr. 1-3
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students with a class of Candidate Masters.

ENG 8001 Seminar in Literary and Cultural Studies Cr. 3
Advanced special topics in literary and cultural studies. Topics to be announced in Schedule of Classes. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 6 Credits

ENG 8002 Seminar in Literary and Cultural Studies Before 1700 Cr. 3
Advanced special topics in literary and cultural studies before 1700. Topics to be announced in Schedule of Classes. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 6 Credits

ENG 8003 Seminar in Literary and Cultural Studies: 1660-1914 Cr. 3
Advanced special topics in literary and cultural studies between 1660 and 1914. Topics to be announced in Schedule of Classes. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 6 Credits

ENG 8004 Seminar in Literary and Cultural Studies After 1870 Cr. 3
Advanced special topics in literary and cultural studies after 1870. Topics to be announced in Schedule of Classes. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 6 Credits

ENG 8005 Seminar in American Literatures and Cultures Cr. 3
Advanced special topics in American literatures and cultures. Topics to be announced in Schedule of Classes. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 6 Credits

ENG 8006 Seminar in Film and Media Studies Cr. 4
Advanced special topics in film and media studies. Topics to be announced in Schedule of Classes. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 8 Credits

ENG 8007 Seminar in Rhetoric and Composition Studies Cr. 3
Advanced special topics in rhetoric and composition studies to be announced in Schedule of Classes. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 6 Credits

ENG 8008 Seminar in Theory Cr. 3
Advanced special topics in theory to be announced in Schedule of Classes. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 6 Credits

ENG 8998 Prospectus and Dissertation Chapter Workshop Cr. 3
Intensive workshop in creating a dissertation prospectus and/or dissertation chapter. Attention to invention, development, peer support, and developing material for academic publishing audiences. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 9 Credits

ENG 8999 Master's Thesis Research and Direction Cr. 1-6
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students with a class of Candidate Masters.
Repeatable for 6 Credits

ENG 9990 Pre-Doctoral Candidacy Research Cr. 1-8
Research in preparation for doctoral dissertation. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 12 Credits

ENG 9991 Doctoral Candidate Status I: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.

ENG 9992 Doctoral Candidate Status II: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: ENG 9991 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

ENG 9993 Doctoral Candidate Status III: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: ENG 9992 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

ENG 9994 Doctoral Candidate Status IV: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: ENG 9993 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

ENG 9995 Candidate Maintenance Status: Doctoral Dissertation Research and Direction Cr. 0
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $370.26
Repeatable for 0 Credits

EPS - EDUCATIONAL LEADERSHIP AND POLICY STUDIES

EPS 8180 Research Seminar Cr. 2-6
Students develop research proposals, evaluate each other's research designs, and conduct any necessary pilot studies. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 8 Credits

EPS 8530 Seminar in the History of Education Cr. 4
The growth and development of American education K-16, including events, circumstances, and influential ideas. Emphasis on the relationship between social, political, and economic change and the evolution of education. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students.

EPS 8560 Administration in Higher Education Cr. 4
Examination of alternative theories of organizational and administrative behavior as these relate to colleges and universities. Consideration of the issues of academic governance and college bargaining as they impact on the role of the administrator. Special projects according to positions held and particular interests of students. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students.

EPS 8570 Contemporary Issues in Higher Education Cr. 4
Intensive exploration of major issues and problems confronting higher education. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students.

EPS 8710 Readings in General Administration Cr. 4
Directed readings in the principles underlying administration in education, government, business and social agencies and other major areas. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: EDA 8710

EPS 8880 Workshop in Administrative and Organizational Studies Cr. 1-10
Practicum in the study of current problems affecting administrative and organizational studies. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 10 Credits

EPS 9600 Seminar in Research and Theory of Administration Cr. 3
Research and theory relating to administration. Examination of textbooks, journals, and associations which promote educational administration research; review of the focus of inquiry and methodology for research in educational administration. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students.

EPS 9610 Seminar in Educational Policy Development Cr. 4
Role and nature of educational policies; observation, assessment, reporting, and discussion of policy-making bodies; review of policy research method; relationship of public values and public school policy. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students.

EPS 9620 Seminar in Educational Policy Initiatives Cr. 4
Recent policy initiatives in elementary and secondary education, with some attention to higher education. Techniques of policy analysis are utilized. Offered Fall.
Prerequisite: EPS 9610 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

ET - ENGINEERING TECHNOLOGY

ET 1500 Engineering Technology Trades Internship Cr. 1-6
Industrial practice dealing with specific skill trades in engineering technology, under supervision in cooperative internship program. Offered Intermittently.

ET 2140 Computer Graphics Cr. 3
Solution of drafting problems and development of graphic presentations using computer-assisted drafting techniques. Use of programming techniques for direct solution of drafting/graphic problems and available software routines. Introduction to the use of computer plotters, CRTs, digitizers. Offered Fall, Winter.
Prerequisites: CSC 1050 with a minimum grade of D-
Course Material Fees: $15

ET 2160 Computer Applications for Engineering Technology Cr. 2
Various software programming environments and programming skills for engineering technology applications, including programming logic, file IO, data acquisition and processing, computer simulation, and communication protocols. Offered Fall, Winter.
Prerequisites: EET 2000 with a minimum grade of C- or ET 2140 with a minimum grade of C-
Restriction(s): Enrollment is limited to Undergraduate level students.

ET 2200 Engineering Materials Cr. 3
Application and characteristics, both physical and chemical, of metallic and nonmetallic materials, polymers, and composites used in industry. The primary process involved in producing these materials. Offered Yearly.
Prerequisites: CHM 1020 with a minimum grade of C-

ET 2500 Co-op Experience Cr. 1-4
Industrial practice under supervision in cooperative education. Work-study program. Report required. Offered Every Term.
Repeatable for 4 Credits

ET 3030 Statics Cr. 3
The objective of this course is to provide the student with a basic understanding of the analytical and graphical techniques that are used to determine the forces acting upon and within a body or structural component under static load. This course provides the necessary foundation for later studies in the analysis and design of structures as well as mechanical and electrical equipment. Offered Fall, Winter.
Prerequisite: ET 2140 with a minimum grade of C- and PHY 2130 with a minimum grade of C- and ET 3430 (may be taken concurrently) with a minimum grade of C-

ET 3050 Dynamics Cr. 3
Kinematics; kinetics of particles; kinetics of translation and rotation of a rigid body; relative motion; use of equations of plane motion. Application of impulse and momentum principles; work and efficiency. Offered Yearly.
Prerequisites: ET 3030 with a minimum grade of C- and MAT 3430 with a minimum grade of C-

ET 3430 Applied Differential and Integral Calculus Cr. 4
Limits, derivatives, applications of derivatives, definite integrals and their applications, and trigonometric functions. No degree credit in College of Liberal Arts and Sciences. Offered Every Term.
Prerequisites: MAT 1800 with a minimum grade of C-
Equivalent: MAT 3430

ET 3450 Applied Calculus and Differential Equations Cr. 4
Continuation of MAT/ET 3430, including logarithmic and exponential functions, first and second order ordinary differential equations, vectors, polar coordinates, Laplace transforms, Taylor series, and Fourier series. No degree credit in College of Liberal Arts and Sciences. Offered Every Term.
Prerequisites: ET 3430 with a minimum grade of C- or MAT 3430 with a minimum grade of C-
Equivalent: MAT 3450

ET 3850 Reliability and Engineering Statistics Cr. 3
Probability, hypergeometric, binomial, Poisson, and normal probability distribution; confidence intervals; inferences concerning means; linear regression; introduction to statistical quality control and reliability; use of computers. Offered Fall, Winter.
Prerequisites: MAT 1800 with a minimum grade of C-

ET 3870 Engineering Economic Analysis Cr. 3
Techniques to economically evaluate major technical projects, rate of return and present worth, interest formulae, federal taxes, risk, inflation, and non-economic constraints. Offered Every Term.
Prerequisites: MAT 1800 with a minimum grade of C-

ET 4990 Guided Study Cr. 1-6
Supervised study and instruction in field selected by student. Offered Intermittently.
Repeatable for 6 Credits

ET 4999 Senior Project Cr. 3
Satisfies General Education Requirement: Writing Intensive Competency
Student designs, builds, and tests product; philosophy of design. Project proposal to be submitted by second week, final outcome to be completed by thirteenth week; progress reports, and oral presentation required. Offered Fall, Winter.
Prerequisites: ENG 3050 with a minimum grade of C

ET 5100 Fundamentals of Mechatronics and Industrial Applications Cr. 3
Fundamentals of mechatronics and their applications in industry; building blocks of mechatronic products including sensors, proximity, displacement and rotational measurement sensors, force and torque measurement sensors, pressure sensors, accelerometers, and actuators; introduction of closed-loop control, electrohydraulic motion control, PLC mechatronics design by embedding sensors, actuators and controllers into mechanical components. Offered Winter.
Prerequisites: EET 3180 with a minimum grade of C- or MCT 3010 with a minimum grade of C-

ET 5110 Advanced Programmable Controllers and Industrial Applications Cr. 3
Introduces basic concepts and architecture of industrial control systems, sensors,measurement devices, PID controllers, and operating principles of PLCs. Students will learn how to operate the PLC programming software. Ladder logic programs are the main language, and functions and function blocks will also be taught for students to grasp high-level PLC-programming skills. Offered Fall, Winter.
Prerequisite: EET 3720 with a minimum grade of C-

ET 5500 Graduate Industrial Internship Cr. 1-4
Industrial practice under supervision in cooperative education. Oral presentation and written report describing professional experience required. Offered for graduate credit only. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 4 Credits

ET 5600 Python: Industrial Applications Cr. 3
Provides a combination of lectures and hands-on projects on how computer programming is applied in various industrial applications including robotics, automation and visualization applications. After an introduction to the basics of Python programming, students will then be provided with the opportunity to perform industrial projects using Python. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Undergraduate level students; enrollment limited to students with a class of Senior.

ET 5800 Industrial Robots Programming Cr. 3
Provides an understanding of basic robotic theory (direct kinematics, inverse kinematics, links, joints, coordinates systems, and robotic vision theory) and applications. Students will program and maintain an R-J or higher robot controller with a standard application software package; identify the components of a vision system; install vision hardware; develop an application; perform error recovery procedures; and follow recommended safety practices. Labs, assignments and projects will be done using industrial robots: FANUC S 430 iw, FANUC LR Mate 200 iC, FANUC LR Mate 200 iD, and FANUC CR 4iA collaborative robot. Simulation and off-line programming will be done using Visual Components and ROBOGUIDE simulation software packages. Students will have the opportunity to receive an industrial certificate if they successfully complete the required test. Offered Fall.

ET 5870 Engineering Project Management Cr. 3
Provides the student with insights into human and organizational behavior affecting projects, in addition to the quantitative tools for the successful management of engineering projects. The course addresses a variety of project types and deals with how to select, initiate, operate and control as well as terminate a project. The role of project managers and their interaction with the rest of the organization is highlighted. Offered Fall, Winter.
Prerequisites: MAT 1800 with a minimum grade of C-

ET 5995 Special Topics in Engineering Technology I Cr. 1-4
Topics to be announced in Schedule of Classes. Offered Intermittently.
Repeatable for 8 Credits

ET 7300 Advanced Battery Systems for Electric-drive Vehicles Cr. 4
Aims to familiarize students with advanced battery technologies and their applications in hybrid and electric vehicles. Contents include: a descriptive overview of energy sources and conversions, HEV/PHEV/EV technology, hybrid prowertrain configuration and components, in-vehicle energy storage systems, electrochemistry fundamentals, battery power and capacity/energy, battery system design (cell, module and pack), Battery Management System (BMS), cell monitoring and balancing, thermal management, on-board diagnostics, battery charging schemes and systems. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: EVE 7300

ET 7430 Methods of Engineering Analysis Cr. 4
This course aims to provide the theory and computer applications of differential equations, partial derivatives, Laplace transforms, Fourier series, matrices, and vectors. It also encourages students to use software programming environments to solve numerical problems. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Graduate level students.

ET 7800 Industrial Robots Dynamics and Control Cr. 3
Covers the direct and inverse dynamic problem for industrial robots; Newton-Euler and Lagrange-Euler equations of robot arm motion; a new automatic separation method (ASM) for automatic generation of dynamic equations; robot trajectory generatio; control of Robot Manipulators (PID control, design of control systems in State-Space and computed torque technique); sensing (range sensing, proximity sensing, touch sensing, force and torque sensing) using available Robots and Collaborative robots; current trends and research in Industrial Robotics and Cobotics. Offered Winter.
Prerequisite: MIT 5700 with a minimum grade of C or ET 5800 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

ET 7990 Directed Study Cr. 1-8
Supervised study and instruction in an advanced topic. Outline of proposed study and petition must be submitted to graduate committee in advance of registration for approval. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 8 Credits

ET 7995 Special Topics in Engineering Technology II Cr. 1-4
Topics to be announced in Schedule of Classes. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 8 Credits

ET 7999 Master's Project Cr. 1-6
Design, fabrication, system optimization, and applications of graduate level material. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students with a class of Candidate Masters.
Repeatable for 6 Credits

ETT - ELECTRICAL TRANSPORTATION TECHNOLOGY

ETT 3190 Fundamentals of Automotive Electrical and Electronic Systems Cr. 3
Foundations in contemporary automotive electronic systems. Topics include: review of automotive electronics, basic circuit building blocks, vehicle controllers, networking, diagnostics, sensors, actuators, and power electronics. Offered Fall.
Prerequisites: EET 2000 with a minimum grade of C- and PHY 2140 with a minimum grade of C-
Restriction(s): Enrollment is limited to Undergraduate level students.

ETT 4150 Fundamentals of Hybrid and Electric Vehicles Cr. 3
Hybrid and electric vehicle technologies: concepts and design, energy analysis, unified model approach, hybridization, hybrid powertrain architectures, IC engines for HEVs, transmissions used in HEVs, on-board energy storages. Offered Winter.
Prerequisites: ET 3430 with a minimum grade of C- and PHY 2140 with a minimum grade of C-
Restriction(s): Enrollment is limited to Undergraduate level students.

ETT 4310 Energy Storage Systems for Hybrid and Electric Vehicles Cr. 3
Overview of advanced battery technologies and applications in EV/HEV, hybrid powertrain configuration and requirements, in-vehicle energy storage systems, battery development, thermal management, control systems, cell monitoring, balancing, and on-board diagnostics. Offered Winter.
Prerequisites: ET 3430 with a minimum grade of C- and PHY 2140 with a minimum grade of C-
Restriction(s): Enrollment is limited to Undergraduate level students.

ETT 4410 Introduction to Advanced Energy Storage Cr. 3
Comprehensive coverage of energy storage for automotive and renewable energy; battery technology; hydrogen electrochemical cells and regenerative fuel cells; mechanical energy storage; thermal and chemical storage; superconductor. Offered Fall.
Prerequisites: ET 3430 with a minimum grade of C- and PHY 2140 with a minimum grade of C-
Restriction(s): Enrollment is limited to Undergraduate level students.

ETT 4650 Power Electronics and Charging Infrastructure for Hybrid and Electric Drive Vehicles Cr. 3
Principles of power systems, distribution systems, and ac/dc charging systems; applications of power electronic technologies in traction control, battery management, and regenerative braking for electric drive vehicles. Offered Winter.
Prerequisites: EET 3150 with a minimum grade of C-
Restriction(s): Enrollment is limited to Undergraduate level students.

ETT 4740 In-Vehicle Networking and Embedded Systems Cr. 3
Principles of data communications and real time embedded systems networking, with emphasis on in-vehicle networking. Controller Area Networks and FlexRay are covered. Project-oriented course utilizing various hardware/software. Offered Yearly.
Prerequisites: EET 3100 with a minimum grade of C-
Restriction(s): Enrollment is limited to Undergraduate level students.

EVE - ELECTRONIC-DRIVE VEHICLE ENGINEERING

EVE 5110 Fundamentals of Electric-drive Vehicle Engineering Cr. 4
Cover engineering fundamentals and basic design of electric-drive vehicle powertrains by understanding and analyzing the relevant multi-physics and applying the associated equations and simple models. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.
Equivalent: ME 5115

EVE 5115 Fundamentals of Electric-drive Vehicle Modeling Cr. 4
Covers engineering and modeling fundamentals and basic design of electric-drive vehicle powertrains by understanding and analyzing the relevant multi-physics and applying the associated equations and simple models. MATLAB script m-file is required for all assignments. Offered Fall.
Restriction(s): Enrollment is limited to Graduate or Undergraduate level students; enrollment limited to students with a class of Senior; enrollment limited to students in the College of Engineering.
Equivalent: EVE 5110, ME 5115

EVE 5120 Fundamentals of Battery Systems for Electric and Hybrid Vehicles Cr. 4
Fundamental electrochemistry and engineering aspects for electric propulsion batteries, including lead acid, nickel metal hydride, and lithium ion technologies. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.
Equivalent: AET 5310, CHE 5120, ME 5215

EVE 5130 Fundamental Fuel Cell Systems Cr. 4
Introduce various types of fuel cells, materials properties of electrodes and polymeric membranes, and electrochemical mechanisms. Reforming of various types of hydrocarbon fuel to hydrogen, and reforming technology. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.
Equivalent: AET 5110, CHE 5110, ME 5110

EVE 5410 Power Electronics and Control Cr. 4
Control of electric energy using power electronic semiconductor devices; mathematical analysis of circuits containing these devices; design, modeling and control of power converters; applications of power electronic converters. Offered Spring/Summer.
Prerequisites: ECE 4330 with a minimum grade of C-
Restriction(s): Enrollment limited to students in the College of Engineering.
Equivalent: ECE 5410

EVE 5430 Modeling and Control of Power Electronics and Electric Vehicle Powertrains Cr. 4
Basic methodologies for modeling, control system design of renewable power sources and power electronics systems. Offered Fall.
Restriction(s): Enrollment is limited to Graduate or Undergraduate level students; enrollment limited to students in the College of Engineering.
Equivalent: AET 5330, ECE 5330

EVE 5450 Control and Optimization for Integrated Electric-drive Vehicle Systems Cr. 4
Understanding of how to control a system using modern control theory, how to optimize the performance of a system using various optimization technologies, and how to apply the control and optimization technologies to EDV systems. Offered Winter.
Prerequisite: EVE 5430
Restriction(s): Enrollment limited to students with a class of Applicant Masters, Candidate Masters, Unranked Grad, Graduate Certificate or Senior; enrollment limited to students in the College of Engineering.

EVE 5600 Integrated Product Development Cr. 3
Product development process: product architectures, concurrent engineering. Integration of marketing, design, and manufacturing functions for product development. How such processes are designed to account for various manufacturing and other business constraints to ensure that customer needs are met. Offered Fall.
Restriction(s): Enrollment limited to students in the College of Engineering.
Equivalent: AET 5600, IE 6405

EVE 5700 Electric-drive Vehicle Capstone Design Cr. 4
The class is divided into teams competing on same or similar Electric-Drive Vehicle (EDV) system design project on contemporary EDV issues with relevant vehicle powertrain and energy system contents, involving energy, environmental, safety and economic analyses. Offered Winter.
Prerequisites: EVE 5110 and EVE 5310 or EVE 5430
Restriction(s): Enrollment limited to students with a class of Applicant Masters, Candidate Masters, Unranked Grad, Graduate Certificate or Senior; enrollment limited to students in the College of Engineering.

EVE 5810 Power Management for Advanced Energy Storage Systems and its Applications Cr. 4
Operating principles and modeling of energy storage techniques; control and power management, power electronic converters, electric machines, and power systems; power management strategies of hybrid energy systems including HEV and alternative energy systems. Offered Fall, Winter.
Prerequisites: ECE 4470
Restriction(s): Enrollment limited to students in the College of Engineering.
Equivalent: AET 5810

EVE 7300 Advanced Battery Systems for Electric-drive Vehicles Cr. 4
Aims to familiarize students with advanced battery technologies and their applications in hybrid and electric vehicles. Contents include: a descriptive overview of energy sources and conversions, HEV/PHEV/EV technology, hybrid prowertrain configuration and components, in-vehicle energy storage systems, electrochemistry fundamentals, battery power and capacity/energy, battery system design (cell, module and pack), Battery Management System (BMS), cell monitoring and balancing, thermal management, on-board diagnostics, battery charging schemes and systems. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: ET 7300

EVE 7310 Electric-drive Vehicle Simulation and Control Cr. 4
Cover modeling, simulation and control of electric-drive vehicle powertrain including plant modeling, controls model development, and in-the-loop controls testing. Proficiency in MATLAB/Simulink is required. Offered Winter.
Prerequisites: EVE 5115 with a minimum grade of B- or ME 5115 with a minimum grade of B-
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.
Equivalent: ME 7315

EVE 7450 Embedded Systems for Vehicles Cr. 4
Advanced embedded processors and operating systems, power modules, auxiliary execution engine, display interface, memory controller, USB controller, DMA, I/O, initialization and configuration, programmable serial controller, serial audio interface, and video input. Offered Fall.
Prerequisite: EVE 5430 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students with a class of Applicant Masters, Candidate Masters, Unranked Grad or Graduate Certificate; enrollment limited to students in the College of Engineering.

EVE 7990 Directed Study Cr. 1-4
Independent projects on subjects of interest in electric-drive vehicle engineering. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students with a class of Applicant Masters, Candidate Masters, Unranked Grad or Graduate Certificate; enrollment limited to students in the College of Engineering.
Repeatable for 4 Credits

EVE 7995 Special Topics in Electric-drive Vehicle Engineering Cr. 1-4
A consideration of special subject matter in electric-drive vehicle engineering. Topics to be announced in Schedule of Classes. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students with a class of Applicant Masters, Candidate Masters, Unranked Grad or Graduate Certificate; enrollment limited to students in the College of Engineering.
Repeatable for 4 Credits

EVE 8999 Master's Thesis Research and Direction Cr. 1-8
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students with a class of Applicant Masters, Candidate Masters, Unranked Grad or Graduate Certificate; enrollment limited to students in the College of Engineering.
Repeatable for 8 Credits

FIN - FINANCE

FIN 3050 Personal Financial Planning Cr. 3
Principles of finance applied to personal financial affairs. Topics include: goal formation, cash budgeting, time value of money, insurance, real estate, banking, investments, tax planning, pensions, estate planning. Offered Intermittently.

FIN 3290 Business Finance Cr. 3
Principles of financial administration, with applications to problems of financial analysis, control, and planning by firms under changing economic conditions. Offered Every Term.
Prerequisites: May be taken concurrently: BA 2300 with a minimum grade of C

FIN 4500 Business Co-op Assignment Cr. 0
Must be elected by Professional Development Co-operative Program students during work semester. Offered for S and U grades only. No credit toward degree. Opportunity to put theory into practice on the job. Students will normally be assigned to cooperating business organizations for internship periods of one semester. Offered Every Term.
Restriction(s): Enrollment limited to students in the School of Business.
Equivalent: ACC 4500, MGT 4500, MKT 4500

FIN 4990 Directed Study in Finance Cr. 1-3
Advanced readings and research or tutorial under the supervision of a faculty member in areas of special interest to student and faculty member. Offered Every Term.
Prerequisites: ACC 5100 with a minimum grade of D- and FIN 5210 with a minimum grade of D-
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.
Repeatable for 6 Credits

FIN 5000 Financial Statement - Analysis & Modeling Cr. 3
Tools and techniques necessary to build dynamic cash flow models. Advanced discussion on the relationship between the financial statements, modeling techniques to professionally present forecasts, valuations and transactional analyses. Successful completion of introductory courses in accounting and finance is required for this class and a basic working knowledge of Microsoft Excel is strongly recommended. Replaces ACC 5000 for finance majors. Offered for undergraduate credit only. Offered Fall, Winter.
Prerequisites: ACC 3010 with a minimum grade of C and FIN 3290 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

FIN 5090 Capital Markets Cr. 3
Detailed discussion of financial intermediaries; the capital markets; money markets, macroeconomics policies and interest rates. Offered for undergraduate credit only. Offered Fall, Winter.
Prerequisites: May be taken concurrently: FIN 3290 with a minimum grade of B
Restriction(s): Enrollment is limited to Undergraduate level students.

FIN 5215 Security Analysis and Portfolio Management Cr. 3
Focus on modern portfolio analysis; how characteristics of a portfolio differ significantly from those of the securities from which they are formed; investigation of the Capital Asset Pricing Model (CAPM) and Arbitrage Pricing Theory (APT). Tools to manage investment risks, detect mispriced securities, and measure performance of investment managers. Offered for undergraduate credit only. Offered Fall, Winter.
Prerequisites: May be taken concurrently: FIN 5000 with a minimum grade of C and BA 3400 with a minimum grade of C and FIN 3290 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

FIN 5220 Portfolio Management Cr. 3
Principles of portfolio construction and administration applicable to various institutions including banks, insurance companies, mutual funds, and pension trusts. Offered for undergraduate credit only. Offered Fall, Winter.
Prerequisites: FIN 5215 with a minimum grade of D-
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

FIN 5270 Advanced Business Finance Cr. 3
Risk analysis, working capital management, capital budgeting and valuation theories. Role of financial management in maximizing value of the firm. Offered for undergraduate credit only. Offered Fall, Winter.
Prerequisites: FIN 3290 with a minimum grade of C and BA 2300 with a minimum grade of C and May be taken concurrently: FIN 5000
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

FIN 5280 Entrepreneurs' Ecosystem Cr. 3
Focuses on resources available to the entrepreneur. Exposes the students to angel and superangel funding, microloans, crowdfunding, and various types of the venture capital funding avenues. Examines the challenges of financing and structuring a deal with financiers. Provides experience in pitching a business idea and understanding the anatomy of a successful business plan. Offered Winter.
Prerequisite: FIN 3290 with a minimum grade of C and FIN 5270 with a minimum grade of C

FIN 5320 Principles of International Finance Cr. 3
Financial management in an international context. Determination of exchange rates; their effect on the economy and financial securities; operation of multinational firms (MNCs) in this environment. Measurement and management of MNC exchange-rate exposures; tax regulatory arbitrage; international portfolio investment; determination of cost of capital for a foreign direct investment project and construction of its capital budget. Offered for undergraduate credit only. Offered Fall, Winter.
Prerequisites: FIN 3290 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

FIN 5330 Bank Management Cr. 3
Analysis of the functional areas of management of banks and related financial institutions, including deposits, cash, loans and asset accounts. Discussion of current topics including liquidity, capital adequacy, electronic fund transfers and mortgages. Offered for undergraduate credit only. Offered Intermittently.
Prerequisites: FIN 3290 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

FIN 5340 Valuation Cr. 3
Asset valuation is at the heart of intelligent financial decision-making, whether that takes the form of portfolio allocation, in deciding the appropriate price to pay or receive in a corporate merger or acquisition, investing in publicly traded securities or private firms, valuation of real estate, even valuing intangible assets such as brands. This course will provide you with the necessary tools, techniques, and models to address almost any valuation problem in finance. Offered Yearly.
Prerequisites: FIN 5270 with a minimum grade of C-

FIN 5890 Internship in Finance Cr. 3
Minimum ten-page paper (excluding exhibits) discussing a problem or opportunity facing the sponsor organization, application of financial concepts, and outcomes relative to the problem or opportunity; summary presentation to department chairperson. Offered for undergraduate credit only. Offered Intermittently.
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

FIN 6240 Financial Management for Engineers Cr. 4
Principles of financial reporting, financial analysis, and cost accounting relevant to effective engineering project management. Offered for undergraduate credit only. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the MS in Industrial Engineering program.

FIN 6996 Corporate Financial Strategies Cr. 3
Advanced financial strategies dealing with cost of capital, mergers and other corporate reorganizations, investment banking and capital acquisition, dividend policy, lease financing, pension funds, convertible securities, international perspectives. Offered for undergraduate credit only. Offered Fall, Winter.
Prerequisites: FIN 5000 with a minimum grade of C and FIN 5215 with a minimum grade of C and FIN 5270 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

FIN 6997 Derivative Securities Cr. 3
Valuation of options, futures and swaps contracts on equities, fixed instrument securities and foreign exchange; use of these derivatives for risk management; brief review of empirical evidence. Offered for undergraduate credit only. Offered Fall, Winter.
Prerequisites: FIN 5215 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

FIN 7000 Applied Financial Analysis Cr. 3
This course will bridge the gap between the study of financial theory in the classroom and the practical application of financial analysis in the home or workplace. A laptop with the most recent version of Excel will be required in every class session. Offered Intermittently.
Prerequisite: BA 7020
Restriction(s): Enrollment is limited to Graduate level students.

FIN 7015 Managerial Economics and Quantitative Methods Cr. 3
Key concepts such as economic efficiency, cost-benefit analysis, break-even analysis and opportunity cost. Salient macroeconomics concepts including money supply, interest rate determination, employment growth rate and how they affect firm-level decision making. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.

FIN 7090 Money and Capital Markets Cr. 3
Financial intermediaries; the capital markets; the money market and interest rates. Offered Fall, Winter.
Prerequisites: BA 7020 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

FIN 7220 Advanced Managerial Finance Cr. 3
Advanced topics in managerial finance, including leasing, merger valuation, reorganization, interactions of investment and financing decisions, and critical evaluation of alternative firm valuation theories. Offered Fall, Winter.
Prerequisites: BA 7020 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

FIN 7229 Corporate Valuation: Techniques, Models and Strategic Applications Cr. 3
Tools, techniques and models used to address valuation problems in finance; emphasis on corporate strategic valuation. Offered Yearly.
Prerequisites: BA 7020 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

FIN 7230 Investment Policies Cr. 3
The key determinants of security prices under changing economic conditions. Theories, strategies and techniques for selection, timing, and diversification; methods of portfolio construction and administration. Offered Fall, Winter.
Prerequisites: BA 7020 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

FIN 7270 Entrepreneurs' Ecosystem Cr. 3
The course focuses on resources available to the entrepreneur, such as incubators and accelerators as well as on the various forms of financing the entrepreneur can access at different stages of growth. While examining the unique financial issues start-ups face, students are exposed to angel and superangel funding, microloans, crowdfunding, and various types of the venture capital funding avenues. From the entrepreneur's point of view, students gain experience in pitching a business idea and learn the anatomy of a successful business plan. Offered Spring/Summer.
Prerequisite: BA 7020 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

FIN 7280 Entrepreneurial Finance and Venture Capital Cr. 3
Focuses on the venture capital (VC) cycle and understanding and analyzing the unique financial issues which entrepreneurial start-up firms face. Two distinct perspectives are provided: (a) issues that relate to the venture capitalist and (b) issues that relate to the entrepreneur. As a result, the course should be of interest to those pursuing careers in an entrepreneurial setting as well as those who are interested in a career in venture capital firm, management buyouts or private equity firm. Offered Fall, Winter.
Prerequisites: BA 7020 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

FIN 7290 Topics in Finance Cr. 3
Current developments in such areas as: working capital management, mergers and acquisitions, pension fund management, use of options and futures, high-risk debt management, hybrid securities, management of financial institutions, international financial issues, or market microstructure. Offered Yearly.
Prerequisites: BA 7020 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 6 Credits

FIN 7330 Fixed Income Securities Cr. 3
Covers the pricing of fixed income securities, examining topics such as bond mathematics, term structure of interest rates, measurement of interest rate risk using duration and convexity, yield spreads, spot and forward rates, and fixed income portfolio management. Offered Yearly.
Prerequisite: BA 7020 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

FIN 7340 Futures and Options Cr. 3
Valuation of options, futures and swaps contracts on equities, fixed instrument securities and foreign exchange; use of these derivatives for risk management. Offered Yearly.
Prerequisites: FIN 7230 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

FIN 7777 Corporate Financial Consulting Cr. 3
Provides an overview of the largest and most common categories of business consultancies, examples of the tools and techniques used to solve corporate finance problems, and group projects to address case study problems based on real world fact patterns. Offered Intermittently.
Prerequisite: FIN 7220 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

FIN 7870 International Finance Cr. 3
Identification of basic factors affecting exchange rates; roles of central banks and international monetary system. Exchange-rate forecasting, balance of payments, international economic linkages. Management of foreign exchange risk (translation, transaction, and economic exposure) by hedging with financial derivative securities and using operational hedges that deal with marketing and production strategies. In-depth analysis of multinational companies' investment in foreign countries; cost-of-capital and capital-budgeting issues. Offered Yearly.
Prerequisites: BA 7020 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

FIN 7890 Internship in Finance Cr. 3
Students work a minimum of 160 hours for fifteen weeks in an entry-level management position in finance. Offered Intermittently.
Prerequisites: BA 7020 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

FIN 7900 Mergers and Acquisitions Cr. 3
An in depth examination of the valuation complexities encountered in corporate restructuring and corporate change of control. The primary topics covered include the Mergers and Acquisitions (M&A) process, valuation using methods of comparables, precedent transactions, and Discounted Cash Flow (DCF) analysis. Financing M&A transactions, particularly using different kinds of debt used in leveraged buyouts will be discussed. Offered Intermittently.
Prerequisites: BA 7020 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

FIN 7990 Portfolio Management/Student Managed Investment Fund (SMIF) Cr. 3
Exposes business students to practical security analysis techniques and investing approaches employed by professional investment managers. Recommended for those students seeking careers in investing, portfolio management, financial analysis, and related financial service industries. Offered Intermittently.
Prerequisites: BA 7020 with a minimum grade of C

FIN 7995 Directed Study Cr. 1-3
Advanced independent readings and research under the supervision of a graduate faculty member in areas of special interest to student and faculty member. Offered Every Term.
Prerequisites: BA 7000 with a minimum grade of C and BA 7020 with a minimum grade of C and BA 7040 with a minimum grade of C and BA 7050 with a minimum grade of C and BA 7070 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 5 Credits

FPC - FINE ARTS: INTERDISCIPLINARY

FPC 1010 Math for the Arts Cr. 3
Satisfies General Education Requirement: Quantitative Experience Comp
An introduction to quantitative reasoning, with the aim of developing the capacity to comprehend and analyze the quantitative information that is prevalent in daily life, with a particular focus on the arts. Topics include problem solving with shape and form and mathematical modeling of consumer finance. Offered Every Term.

FPC 1020 Wayne Experience: Building a Foundation for College Success Cr. 1
Satisfies General Education Requirement: Wayne Experience
This course is designed to expose students to the Wayne State University undergraduate experience. Students will gain an understanding of campus resources, institutional values, and the merits of a liberal arts education from an urban research one university. This course will aid in the development of critical and analytical thinking skills necessary for college success while determining one's academic and professional goals. Offered Fall, Winter.
Restriction(s): Enrollment limited to students with a class of Freshman.

FPC 1100 Computing in the Arts Cr. 2
Practical experience in web design, digital imaging and digital audio manipulation and discussion of relationship between digital arts and culture. Offered Intermittently.
Restriction(s): Enrollment is limited to Undergraduate level students.
Course Material Fees: $10

FPC 5010 Special Topics Cr. 1-3
Offered Yearly.
Repeatable for 6 Credits

FPC 5025 Entrepreneurship in the Arts Cr. 3
Explores the possibilities of entrepreneurship as a career/life option. Students will identify the intersection of the arts, arts culture, entrepreneurship and the individual to provide a practical and meaningful guide to creating a professional career in the arts. Offered Winter.

FPC 5660 Creativity Cr. 3
Theoretical and experiential exploration in creativity and its relation to individuals, organizations, and the entrepreneurial process. Offered Fall.

FPC 5990 CFPCA Service-Learning Cr. 0
Corequisite course used to designate the service-learning component of specified CFPCA courses. Maximum of three registrations allowed. Offered Intermittently.

FPH - FAMILY PUBLIC HEALTH

FPH 7010 Urban Community Assessment and Planning Cr. 1
Designed to provide students an introduction to the public health landscape of an urban community. Students will be traveling around an assigned community in which they will observe, assess, analyze and prioritize needs and goals, which promote public health. A group community assessment along with a presentation will include data collection, an analysis of data and prioritization of health objectives. Required of all MPH students in the Public Health Practice concentration. Offered Fall, Spring/Summer.
Restriction(s): Enrollment is limited to Graduate level students.

FPH 7015 Biostatistics I Cr. 3
Descriptive statistics; elementary probability; measures of central tendency and of dispersion; random samples; probability distributions including the binomial, the Poisson, the normal, the t, the chi-square, and the F; introduction to estimation and hypothesis testing; rates and vital statistics. Online version is offered for non-M.P.H. students only during winter semesters. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Graduate level students.

FPH 7020 Biostatistics II Cr. 3
Statistical models for health-related fields. Analysis of variance, experimental design, linear regression, logistic regression and proportional hazards models. Topic include simple and multivariable models, model fitting procedures, model diagnostics and multiple comparisons procedures. Application of these methods to health-related data. Offered Winter.
Prerequisites: FPH 7015 with a minimum grade of B
Restriction(s): Enrollment is limited to Graduate level students.

FPH 7100 Health Care Organization and Administration Cr. 3
General overview of the U.S. health care system; social and organizational aspects of the delivery, financing, utilization, planning, and development of health care systems. Offered Winter, Spring/Summer.
Restriction(s): Enrollment is limited to Graduate level students.

FPH 7120 Global Public Health Cr. 3
Addresses global public health issues that impact populations, with the major objective of health equity. Public health principles and techniques are applied using a multidisciplinary approach to prevention and risk reduction strategies. Offered Spring/Summer.
Restriction(s): Enrollment is limited to Graduate level students.

FPH 7150 Probability and Inference Cr. 4
Mathematical foundation of statistics based on principle of probability. It covers notions of probability, conditional probability, Bayes' theorem, random variables discrete/continuous, expectation and standard deviation, moment generating function, bivariate distribution, special sampling distribution (e.g. chi-square, t, F-distribution etc.), CLT, sufficiency, completeness, point estimation, MLE, unbiased and UMVUE, testing of hypothesis, UMP test, LRT, confidence interval, etc. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate or Professional level students; enrollment is limited to students with a major, minor, or concentration in Biostatistics, Public Health or Public Health Practice.

FPH 7160 Linear Regression and ANOVA Cr. 3
Statistical methods utilized in linear regression and analysis of variance (ANOVA). Theoretical underpinnings of linear model techniques are emphasized with a focus on gaining practical knowledge in linear model data analysis in public health. Topics will include model building strategies, assumption checking and the theoretical aspects of general hypothesis testing. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students.

FPH 7210 Research Methods for Public Health Professionals Cr. 3
Logic of research design, formulation of public health research problems and objectives; development of hypotheses, specification of variables; sampling; random assignment; issues in measurement, qualitative and quantitative data collection; error; analyses. Required of all MPH students in the Public Health Practice concentration. Offered Fall.
Prerequisites: May be taken concurrently: FPH 7015 with a minimum grade of B and May be taken concurrently: FPH 7240 with a minimum grade of B
Restriction(s): Enrollment is limited to Graduate level students.

FPH 7230 Health Program Evaluation Cr. 3
Principles and application of program evaluation in health care fields. Design, implementation, and management of evaluations in health environments. Offered Fall, Spring/Summer.
Restriction(s): Enrollment is limited to Graduate level students.

FPH 7240 Epidemiology Cr. 3
Epidemiologist's task list; research of problems without known etiology; infectious and non-infectious models; examination of current problems. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.

FPH 7250 Applied Epidemiology Cr. 3
Epidemiological principles, practice, and methodology as applied to researchable health delivery or health questions. Emphasis on design, conduct and analysis of non-experimental studies; student design of epidemiological study. Offered Winter.
Prerequisites: FPH 7015 with a minimum grade of B and FPH 7240 with a minimum grade of B
Restriction(s): Enrollment is limited to Graduate level students.

FPH 7260 Epidemiologic Methods Cr. 2
Methodologic concepts underlying the science of epidemiology; conduct and interpretation of epidemiologic studies. Emphasis on elements of observational study design, data analysis, and inference, including issues related to causation, bias, and confounding. Offered Intermittently.
Prerequisites: FPH 7015 with a minimum grade of B and FPH 7240 with a minimum grade of B
Restriction(s): Enrollment is limited to Graduate level students.

FPH 7270 Applied Research Methods in Urban Public Health Cr. 3
Focuses on applying quantitative methods to multiple data sets to answer analytic questions, completion of an individualized small project from hypothesis to methods to analysis and discussion that utilizes urban health focused data provided to students. Qualitative methods will be included. Offered Fall.
Prerequisites: FPH 7010 with a minimum grade of B- and FPH 7020 with a minimum grade of B- and FPH 7100 with a minimum grade of B- and FPH 7240 with a minimum grade of B- and FPH 7250 with a minimum grade of B- and FPH 7320 with a minimum grade of B- and FPH 7350 with a minimum grade of B- and FPH 7420 with a minimum grade of B-
Restriction(s): Enrollment is limited to Graduate level students.

FPH 7280 Public Health Community Level Intervention Science Cr. 3
Focuses on intervention science as it pertains to improving public health, with an emphasis on intervening at the community and institutional rather than individual level. The course focuses on systematic, theoretical, and model-driven approaches for developing, implementing, and evaluating evidence-based public health interventions in community settings. Offered Fall.
Prerequisites: FPH 7010 with a minimum grade of B- and FPH 7020 with a minimum grade of B- and FPH 7100 with a minimum grade of B- and FPH 7240 with a minimum grade of B- and FPH 7250 with a minimum grade of B- and FPH 7320 with a minimum grade of B- and FPH 7350 with a minimum grade of B- and FPH 7420 with a minimum grade of B-
Restriction(s): Enrollment limited to students in a Master in Public Health degree.

FPH 7300 Health Care Policy Cr. 3
Concepts, issues, and problems in health care policy; substantive information regarding policy formulation and content. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students.

FPH 7320 The Social Basis of Health and Health Care Cr. 3
Social, cultural, and psychological aspects of health and health-related behavior. Topics include: health prevention and promotion, relationship between stress and illness, health services utilization, patient-practitioner interactions, and coping with chronic illness. Offered Fall, Spring/Summer.
Restriction(s): Enrollment is limited to Graduate level students.

FPH 7340 Generalized Linear Models and Categorical Data Cr. 4
Statistical analysis of categorical and non-normal data, with an emphasis on the cohesive approach of generalized linear models. Specific types of models to be examined include logistic regression, probit regression, and log-linear models. Offered Intermittently.
Prerequisites: FPH 7150 with a minimum grade of B and FPH 7160 with a minimum grade of B
Restriction(s): Enrollment is limited to Graduate level students.

FPH 7350 Statistical Programming for Public Health Practice Cr. 2-3
Statistical programming using R and SAS in public health. SAS topics include error checking, reading datasets, coding and formatting variables, writing reports, tables, and graphs. R topics include data visualization and analysis, numeric optimization and bootstrapping. Offered Spring/Summer.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Medicine.

FPH 7370 Health, Disease, and Aging Cr. 3
Study of health, health problems, and medical care of aging populations. Biomedical, psychosocial and public health aspects of later life illness; family, community, and societal response to health problems; hospital and longterm care; disparities in health and medical care. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students.

FPH 7390 Biostatistical Methods in Epidemiology Cr. 4
Application and interpretation of biostatistical methods used in epidemiologic studies. Topics include: approaches to missing data, sensitivity analysis, bootstrap methods, statistical power, sample size estimation, and analysis of ordinal exposures and outcomes. Offered Intermittently.
Prerequisites: FPH 7020 with a minimum grade of B and FPH 7260 with a minimum grade of B
Restriction(s): Enrollment is limited to Graduate level students.

FPH 7420 Principles of Environmental Health Cr. 3
Current environmental health issues that affect individuals at work and in their communities. Sources of chemical, physical, and biological agents; their associated health effects. Air pollution, exposure prevention, water and solid waste management, and occupational health and safety. Impact of environmental exposures on human health; case studies. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Graduate level students.

FPH 7430 Application of Public Health Principles Cr. 2
Provides exposure and skill development in a broad and diverse range of public health projects and associated methods while working to develop an applied learning project proposal including grant development and budgeting. Offered Fall.
Prerequisites: FPH 7015 with a minimum grade of B- and FPH 7100 with a minimum grade of B- and FPH 7240 with a minimum grade of B- and FPH 7320 with a minimum grade of B- and FPH 7420 with a minimum grade of B-
Restriction(s): Enrollment limited to students in a Master in Public Health degree.

FPH 7440 Practicum in Public Health Cr. 3
Individual field experience in public health setting. Integration and synthesis of content and experiences of the public health courses; direct hands-on experience, with appropriate reporting mechanism. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.

FPH 7460 Linear Mixed Models Cr. 3
Statistical modeling to incorporate random effects. Topics will include clustered-data analysis, longitudinal data analysis, hierarchical linear models, correlated data, and covariance structure. Offered Intermittently.
Prerequisites: FPH 7150 with a minimum grade of B or FPH 7160 with a minimum grade of B
Restriction(s): Enrollment is limited to Graduate level students.

FPH 7480 Design of Experiments and Clinical Trials Cr. 3
Introduction to five different types of experimental designs and design and analytic issues that arise in each of the study designs. Extension of the designs to clinical trials and microarray experiments are discussed. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students.

FPH 7500 Survival Analysis Cr. 3
Statistical methods for analyzing survival data, including parametric and nonparametric approaches. Topics include Kaplan-Meier estimation, log rank test, and proportional hazards regression analysis. Offered Intermittently.
Prerequisites: FPH 7150 with a minimum grade of B or FPH 7160 with a minimum grade of B
Restriction(s): Enrollment is limited to Graduate level students.

FPH 7510 Community Health: Detroit Initiatives Cr. 2-3
Current urban health initiatives examined using a range of social science frames; focus on field work skills, perspectives, and methodologies useful for working with ongoing community-based initiatives and grass-roots organizations. Includes optional field experience for 1 credit. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students.

FPH 7760 Community Health Education Cr. 3
Analysis of community health problems and change strategies for health promotion; application of principles and techniques of community health education to multiple ethnic groups and diverse health problems. Offered Spring/Summer.
Restriction(s): Enrollment is limited to Graduate level students.

FPH 7780 Emergent Topics in Public Health Cr. 3
Selected public health topics or emerging fields in public health practice, including environmental health, social behavioral health, epidemiology, biostatistics, and healthcare leadership and management. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students.

FPH 7860 Principles of Occupational Health Cr. 3
Current occupational health issues; interplay between work environment and worker health. Through case studies, students employ integrative approaches to ensure worker safety and to optimize worker health, well-being and performance. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students.

FPH 7870 Occupational Health Psychology Cr. 3
Theory and research on relationships between the work environment and employee health and well-being; development and maintenance of health people within healthy organizations and the prevention of illness and injuries. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students.

FPH 7880 Organizational Determinants of Employee Health and Productivity Cr. 3
Organizational and leadership theories, research and practical applications of practices and processes contributing to employee health and productivity; emphasis on service and knowledge workers, that make up 80 percent of the workforce. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students.

FPH 7990 Directed Studies in Community Health Services Cr. 1-6
Studies dealing with the public health practice and research to supplement regular course offerings. An approved directed study proposal is required prior to registration. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.

FPH 8990 Master's Project Cr. 1-3
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.

FPH 8991 Master's Project Seminar Cr. 3
This is a seminar in which faculty and students interact in a variety of in-class writing activities to support development of individually prepared scholarly products. This course fulfills the Master's Project requirements for completion of the MPH degree. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.

FPH 8999 Master's Thesis Research and Direction Cr. 2-8
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 8 Credits

FRE - FRENCH

FRE 1010 Beginning French I Cr. 4
Introduction to the French language and Francophone cultures through interactive and communicative reading, writing, listening, and speaking activities to develop language and cultural proficiency. No experience with French is needed. Offered Every Term.
Course Material Fees: $5

FRE 1020 Beginning French II Cr. 4
Continuing development of French language and Francophone cultural proficiency through interactive and communicative reading, writing, listening and speaking activities. Offered Every Term.
Prerequisites: FRE 1010 with a minimum grade of D-
Course Material Fees: $5

FRE 2010 Intermediate French Cr. 4
Satisfies General Education Requirement: Foreign Culture, Global Learning Inquiry
Continuing development of French language and Francophone cultural proficiency through interactive and communicative reading, writing, listening and speaking activities. Completion of this course fulfills the General education requirement for foreign language and culture. Offered Every Term.
Prerequisites: FRE 1020 with a minimum grade of D-
Course Material Fees: $5

FRE 2100 French through Film I Cr. 4
Increased mastery in French and Francophone linguistic and cultural proficiency through film and interactive and communicative reading, writing, listening and speaking activities. Offered Fall.
Prerequisites: FRE 2010 with a minimum grade of D-

FRE 2110 French through Film II Cr. 4
Increased mastery in French and Francophone linguistic and cultural proficiency through film and interactive and communicative reading, writing, listening and speaking activities. Offered Winter.
Prerequisites: FRE 2010 with a minimum grade of D-

FRE 2700 Anguish and Commitment: European Existentialist Literature Cr. 3-4
Satisfies General Education Requirement: Cultural Inquiry, Philosophy Letters
A team-taught interdisciplinary study in English of representative works by European existentialist writers: Dostoevsky, Hesse, Kafka, Pirandello, Sartre, Camus and Unamuno. Offered Every Other Year.
Equivalent: GER 2700, ITA 2700, SPA 2700

FRE 2710 Introduction to French Civilization I Cr. 3
Satisfies General Education Requirement: Civ and Societies (CLAS only), Foreign Culture, Global Learning Inquiry
An overview of France's great contributions to world culture, from the time of the Gauls to the French Revolution. French history, thought, art, architecture, society, geography, and institutions; illustrated with slides and films; includes visits to Detroit Institute of Arts. Offered Every Term.

FRE 2720 Introduction to French Civilization II Cr. 3
Satisfies General Education Requirement: Civ and Societies (CLAS only), Foreign Culture, Global Learning Inquiry
From the French Revolution to contemporary times. French way of life, its moral and intellectual foundations, its culture and institutions; their transformation under the stress of the twentieth century. Offered Every Other Year.

FRE 2991 Understanding the Fairy Tale Cr. 3
Satisfies General Education Requirement: Cultural Inquiry, Philosophy Letters
Fairy tale's meaning and role in Western society from the Brothers Grimm to Walt Disney. Methods of fairy-tale interpretation. All lectures and reading in English. Offered Every Other Year.
Equivalent: GER 2991

FRE 3200 French Cafe Cr. 3
Students hone their speaking skills through discussions and debates about French and Francophone culture (film, television, graphic novels, podcasts) and current events. Offered Winter.
Prerequisites: FRE 2100 with a minimum grade of D- or FRE 2110 with a minimum grade of D-

FRE 3300 Prose, Poetry, and Performance Cr. 3
An initiation into the reading of various literary genres. Study of methods and vocabulary to enable students to discuss and analyze essays, poems, short novels, and plays. Offered Winter.
Prerequisites: FRE 2100 with a minimum grade of D- or FRE 2110 with a minimum grade of D-

FRE 4620 Topics in Sociocultural Analysis Cr. 3
Initiation into reading a range of different media, verbal and visual, in French and francophone cultural texts, from poetry to prose (fictional and non-fictional), to painting, photography, architecture, and other media. Offered Winter.
Prerequisites: 2 of FRE 2100, FRE 2110, FRE 3200, FRE 3300

FRE 5000 Minor Language Practicum Cr. 3
Controlled application of active language skills for students electing a Ph.D. minor in French. No degree credit toward Ph.D. Offered for graduate credit only. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 9 Credits

FRE 5100 Advanced Composition Cr. 4
Satisfies General Education Requirement: Writing Intensive Competency
Focus on advanced composition skills through a close analysis of different types of texts with the goal of developing vocabulary and advanced writing and speaking abilities. Offered Winter.
Prerequisites: 2 of FRE 2100, FRE 2110, FRE 3200, FRE 3300

FRE 5200 French Phonetics and Pronunciation Cr. 3
Systematic study of French sounds and their relation to orthography, morphology, and grammar; syllable structure and phonetic transcription; prosody and intonation; intensive oral, aural, and written practice Offered Winter.
Prerequisites: 2 of FRE 2100, FRE 2110, FRE 3200, FRE 3300

FRE 5410 Topics in French and Francophone Culture Cr. 3
Students will explore French and Francophone culture from the perspective of political, cultural, and/or social history. Topics could include war, women, popular culture, childhood, colonialism and postcolonialism; the course may focus on a single period or provide a diachronic overview. Topics to be announced in the Schedule of Classes. Offered Every Other Fall.
Restriction(s): Enrollment is limited to Undergraduate level students.

FRE 5415 Topics in French and Francophone Literature Cr. 3
Students will explore French and Francophone literature from the perspective of political history, aesthetic history, cultural history, and/or social history. Topics might include: the diachronic study of a genre like theater or the fairy tale; themes such as gender, travel, the Other; a geographical focus such as North African or Quebecois and Franco-Canadian literature. Topics to be announced in the Schedule of Classes. Offered Every Other Fall.
Restriction(s): Enrollment is limited to Undergraduate level students.

FRE 5600 Translation Studies Cr. 3
Introduces students to the study of translation, both as theory and practice, through the discussion of key texts in translation theory, and weekly practice focused on the acquisition of different translation techniques and improving students' idiomatic French. Students will polish their language skills while exercising their creative faculties through translations of various texts from different genres: newspaper articles, graphic novels, poems, diaries, song lyrics, print ads, etc. Offered Fall.
Prerequisites: 2 of FRE 3300, FRE 4620, FRE 5100

FRE 5990 Directed Study Cr. 1-4
Offered Every Term.
Repeatable for 8 Credits

FRE 5999 Internship in French Studies Cr. 3
Internship in a public or private organization related to French Studies. Offered for undergraduate credit only. Offered Every Term.
Prerequisite: FRE 3200 with a minimum grade of C- or FRE 3300 with a minimum grade of C-
Restriction(s): Enrollment is limited to students with a major, minor, or concentration in French or French Honors.

FRE 6200 Renaissance to Revolution Cr. 3
Offers a panoramic view of the literary and cultural landscape from the French Renaissance to the Revolution through the study of influential texts of prose, poetry, and theater. The texts studied will range from the early sixteenth century and the period of the Sun King to the philosophes. Offered Every Other Fall.
Prerequisites: 2 of FRE 3300, FRE 4620, FRE 5100, FRE 5600

FRE 6300 Modernity, Postmodernity, and Extreme Contemporain Cr. 3
Offers a panoramic view of the modern, postmodern, and contemporary periods through the study of influential texts of prose, poetry, and theater. The texts studied will range from the early nineteenth century and la Belle Epoque to the two World Wars and the contemporary period. Offered Every Other Fall.
Prerequisites: 2 of FRE 3300, FRE 4620, FRE 5100, FRE 5600

FRE 6400 Introduction to French Linguistics Cr. 3
Study of the historical development of French language standardization, language varieties, and various linguistic systems at work in the French language (e.g., phonology, morphology, syntax, semantics). Offered Every Other Year.
Prerequisites: FRE 5200 with a minimum grade of D-

FRE 6620 Topics in Sociocultural Analysis Cr. 3
Initiation into reading a range of different media, verbal and visual, in French and francophone cultural texts, from poetry to prose (fictional and non-fictional), to painting, photography, architecture, and other media. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 9 Credits

FRE 6770 Studies in French Literature Cr. 3
Study of one of the major literary genres: prose, poetry or drama; its development from origins to present time. Emphasis on textual analysis. Topics to be announced in Schedule of Classes. Offered Every Other Year.
Prerequisites: 2 of FRE 3300, FRE 4620, FRE 5100, FRE 5600

FRE 7010 Introduction to Literary Theory Cr. 3
Graduate-level introduction to key critical perspectives, theories, problems, and questions that have informed the discussions and analyses of twentieth- and twenty-first-century literary and cultural scholars. Specific theoretical paradigms used to determine the task of textual interpretation, locate the limits of each approach, trace the emergence of subsequent theoretical paradigms, and think about how such theories might or might not be relevant in the study of specific texts. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: CLA 7010, GER 7010, ITA 7010, NE 7010, SLA 7010, SPA 7010

FRE 7770 Special Studies in French Literature Cr. 3-4
Works of an outstanding writer, a literary genre, or of literary trends. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 8 Credits

FRE 7996 Research Project Cr. 1-4
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 12 Credits

FRE 7999 Master's Essay Direction Cr. 1-3
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students with a class of Candidate Masters.

FRE 8410 Topics in French and Francophone Culture Cr. 3
In this course, students will explore French and Francophone culture from the perspective of political, cultural, and/or social history. Topics could include war, women, popular culture, childhood, colonialism and postcolonialism; the course may focus on a single period or provide a diachronic overview. Topics to be announced in the Schedule of Classes. Offered Every Other Fall.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 9 Credits

FRE 8415 Topics in French and Francophone Literature Cr. 3
In this course students will explore French and Francophone literature from the perspective of political history, aesthetic history, cultural history, and/or social history. Topics might include: the diachronic study of a genre like theater or the fairy tale; themes such as gender, travel, the Other; a geographical focus such as North African or Quebecois and Franco-Canadian literature. Topics to be announced in the Schedule of Classes. Offered Every Other Fall.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 9 Credits

FRE 8600 Seminar in Early Modern Studies Cr. 3
Advanced special topics on early modern literature and culture. Topics to be announced in the Schedule of Classes. Offered Every Other Winter.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 9 Credits

FRE 8610 Seminar in Modernity, Postmodernity, and Extreme Contemporain Cr. 3
Advanced special topics on modern, postmodern, and contemporary French and Francophone literatures and cultures. Topics to be announced in the Schedule of Classes. Offered Every Other Winter.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 9 Credits

FRE 8999 Master's Thesis Research and Direction Cr. 1-8
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students with a class of Candidate Masters.
Repeatable for 8 Credits

FRE 9990 Pre-Doctoral Candidacy Research Cr. 1-8
Research in preparation for doctoral dissertation. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 12 Credits

FRE 9991 Doctoral Candidate Status I: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.

FRE 9992 Doctoral Candidate Status II: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: FRE 9991 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

FRE 9993 Doctoral Candidate Status III: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: FRE 9992 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

FRE 9994 Doctoral Candidate Status IV: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: FRE 9993 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

FRE 9995 Candidate Maintenance Status: Doctoral Dissertation Research and Direction Cr. 0
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $370.26
Repeatable for 0 Credits

FYS - FIRST YEAR SEMINAR

FYS 1010 Learning with the Brain in Mind Cr. 1
Satisfies General Education Requirement: Wayne Experience
This is an interactive, collaborative course designed to provide students with the tools needed to simplify for success. The curriculum is holistic in nature as it addresses not only evidence-based learning strategies, but also academic performance enhancing topics such as time-management, stress-management, diversity, wellness, and successfully transitioning from high school to Wayne State University. Offered Fall, Winter.
Restriction(s): Enrollment limited to students with a class of Freshman.

FYS 1020 Preparing for Academic Success and Career Exploration Cr. 2
Through a process of introspection and interactive experiences, this course will improve your writing; enhance your decision making and critical thinking skills and expose you to university resources and to multiple career paths in throughout the university. Offered Fall, Winter.

GEL - GEOLOGY

GEL 1010 Geology: The Science of the Earth Cr. 3
Satisfies General Education Requirement: Natural Scientific Inquiry, Physical Sciences
Introduction to continental drift and plate tectonic theory, geophysics and structure of earth's crust and interior; rocks and minerals; igneous and volcanic geology; work of running water, glaciers and ground water; geologic time; oceanography. One day field trip. Offered Every Term.

GEL 1011 Geology: The Science of the Earth Laboratory Cr. 1
Introduction to continental drift and plate tectonic theory, geophysics and structure of earth's crust and interior; rocks and minerals; igneous and volcanic geology; work of running water, glaciers and ground water; geologic time; oceanography Offered Every Term.
Corequisite: GEL 1010
Course Material Fees: $15

GEL 1020 Interpreting the Earth Cr. 4
Sedimentary rocks, sedimentary structures and fossils as tools for interpreting the history of the earth. Paleoecology of the geologic past and the structure of the earth are emphasized. Offered Fall, Winter.
Prerequisites: GEL 1010 with a minimum grade of C

GEL 1050 Oceanography Cr. 4
Introductory course in oceanography; includes origin of the ocean basins; ocean currents, waves and tides; life in the oceans and marine ecology; food, mineral and energy resources of the sea. Offered Intermittently.

GEL 1370 Meteorology: The Study of Weather Cr. 3
Weather theory including cloud types, cloud formation; types and formation of winds; rain, snow, other precipitation. Storm theory: formation of and dangers in thunderstorms, hurricanes and tornadoes. Atmospheric phenomena: aurora, rainbows, the mirage, twinkling of stars, twilight crepuscular rays; weather forecasting, instruments, maps. Offered Winter.

GEL 2130 Mineralogy Cr. 4
Mineral identification using physical and optical properties. Introduction to petrographic microscope and electron microscope/microprobe. Properties and occurrences of major mineral groups and their environmental significance. Check with instructor for field trip destination; field trip to Canada frequently part of course. Offered Fall.
Course Material Fees: $125

GEL 3100 Air and Water in Environmental Systems Cr. 3
Development of quantitative skills related to applying an understanding of the basic properties of air and water,and the dynamics of these fluids at rest and in motion, critical to addressing almost any environmental issue. Applications will include the role of air and water in environmental problems at multiple scales (and in both urban and natural settings) and integrating a systems approach. Offered Fall.
Prerequisites: GEL 1010 with a minimum grade of D- and MAT 1800-6ZZZ with a minimum grade of D-
Course Material Fees: $40
Equivalent: EVS 3100

GEL 3160 Petrology Cr. 4
Classification of igneous and metamorphic rocks using macroscopic and microscopic material and textural characteristics. Occurrence and alteration of each major rock type related to tectonic settings. Mandatory four-day field trip. Offered Winter.
Prerequisites: GEL 1020 with a minimum grade of D- and GEL 2130 with a minimum grade of D-
Course Material Fees: $125

GEL 3300 Structural Geology Cr. 4
Description and interpretation of features which result from the origin or deformation of rock masses. Offered Winter.
Prerequisites: GEL 1020 with a minimum grade of D-
Course Material Fees: $125

GEL 3400 Principles of Sedimentology and Stratigraphy Cr. 4
Processes which produce sediments, environments of deposition, changes after deposition. Relationship between tectonics and sedimentation. Origin of sedimentary strata. Facies and correlations. Offered Fall.
Prerequisites: GEL 1020 with a minimum grade of D- and GEL 2130 with a minimum grade of D-
Course Material Fees: $20

GEL 3450 Principles of Paleontology Cr. 4
The history of life on earth as recorded in the fossil record. Using fossils to document the evolutionary history of plants, animals and ecosystems through geological time, as well as the practical applications of fossil material in stratigraphic correlation, basin analysis and resource exploration. Offered Fall.
Prerequisite: GEL 1010

GEL 3600 Special Topics in Geology Cr. 2-3
Subjects of general interest to geology majors. Topics may include: soil and groundwater pollution; petroleum geology; engineering geology; geochronology; gems and minerals. Offered Intermittently.
Prerequisites: GEL 1010 with a minimum grade of D-
Repeatable for 16 Credits

GEL 3650 Field Geology Cr. 1-10
Field studies involving problems in individual geologic mapping and related techniques. Offered Intermittently.
Repeatable for 16 Credits

GEL 3800 Team Research Cr. 2
Students work in teams to design and implement a fieldwork based geologic research project. Students develop hypotheses, tests, and fieldwork plans, and they make thin sections and collect data on the scanning electron microscope, finishing with poster presentations. Offered Fall.
Prerequisite: GEL 1010 with a minimum grade of D-

GEL 3990 Directed Study Cr. 1-6
Offered Every Term.
Repeatable for 10 Credits

GEL 4200 Geomorphology Cr. 4
Principles underlying development of landforms by geologic agents. Offered Every Other Year.
Prerequisites: GEL 1020 with a minimum grade of D-
Course Material Fees: $15

GEL 4400 40-Hour HAZWOPER Training Cr. 2
Forty-hour responder-level Hazardous Waste Operations and Emergency Response (HAZWOPER) Training, including safe work practices and regulations, identification and classification of hazardous materials, emergency response, use of PPE and respirators. Offered Winter.
Restriction(s): Enrollment limited to students with a class of Junior or Senior.
Course Material Fees: $40

GEL 4860 Research Cr. 3-4
Primarily for honors students. Independent laboratory and field work. Offered Every Term.
Repeatable for 8 Credits

GEL 4998 Honors Thesis Cr. 3
Preparation of an Honors thesis on a subject of general interest to geology majors. Satisfactory completion assures Honors graduation, providing performance in preceding Honors courses has been at Honors level; to be taken under direction of Geology faculty. Offered Every Term.
Restriction(s): Enrollment limited to students with a class of Senior.

GEL 5000 Geological Site Assessment Cr. 4
Geologic methods for Phase I Environmental Site Assessments. Application of geostatistics to site characterization. Offered Every Other Year.
Prerequisites: GEL 1010 with a minimum grade of D- or GEL 1000 with a minimum grade of D-

GEL 5120 Environmental Geochemistry Cr. 4
Survey of some of the geochemical interactions which take place in Earth environments (water, soils, atmosphere, etc.) brought about by natural and human-induced chemical processes. Offered Every Other Year.
Prerequisites: CHM 1000-6XXX with a minimum grade of D- and GEL 1010 with a minimum grade of D-
Course Material Fees: $20

GEL 5150 Soils and Soil Pollution Cr. 4
Physical, chemical and mineralogical properties and classification of soils. Behavior of pollutants in soils and methods for reclamation. Offered Spring/Summer.
Prerequisites: CHM 1220 with a minimum grade of D- and CHM 1230 with a minimum grade of D-

GEL 5210 Applied Geophysics Cr. 4
Introduction to applied geophysical methods used in subsurface exploration. Students will learn the basics of near-surface seismic, gravity, magnetic, electrical resistivity, and electromagnetic methods and data analysis. Offered Every Other Year.
Prerequisites: GEL 1010 with a minimum grade of D-, PHY 2130 with a minimum grade of D-, and PHY 2140 with a minimum grade of D- or PHY 2170 with a minimum grade of D- and PHY 2180 with a minimum grade of D- and MAT 2010 with a minimum grade of D-
Course Material Fees: $40

GEL 5360 Hydrology of Natural and Urban Environments Cr. 4
Focuses on surface water processes including how water movement, storage and transformation on the Earth's surface is influenced by landscape characteristics, including human modifications of those characteristics, and weather. Offered Every Other Year.
Prerequisites: MAT 1800 with a minimum grade of D-
Course Material Fees: $55

GEL 5420 Mathematical Methods in Earth Science Cr. 4
An introduction to mathematical methods in Earth Science focusing on an introduction to programming in Matlab, using statistical methods, Monte Carlo, and building towards finite difference numerical methods. Offered Every Other Year.

GEL 5450 Hydrogeology Cr. 4
Characteristics and behavior of groundwater in earth materials. Principles of groundwater flow and solute transport. Introduction to numerical models and methods. Offered Every Other Year.
Prerequisites: GEL 1010 with a minimum grade of D- and MAT 2010-6XXX with a minimum grade of D-

GEL 5510 Environmental Fate and Transport of Pollutants Cr. 4
Basic principles of chemical behavior in the environment; sources, fate, and transport of contaminants. Offered Winter.
Prerequisites: CHM 1220 with a minimum grade of D- or CHM 1240 with a minimum grade of D- or CHM 1230 with a minimum grade of D- or CHM 1250 with a minimum grade of D- and MAT 2010-6XXX with a minimum grade of D-

GEL 5600 Special Topics in Geology Cr. 4
Subjects of general interest to geology majors. Topics may include: mapping; soil and groundwater pollution; petroleum geology; engineering geology; mathematical methods in Earth Science; or others. Offered Intermittently.
Repeatable for 4 Credits

GEL 5610 Special Topics in Geology Cr. 1
Topics may be related themes such as current events, a specific area of geology or the Earth Sciences, or the development of professional skills relevant to careers in the Earth Sciences. Offered Every Other Year.
Repeatable for 3 Credits

GEL 5650 Applied Geological Mapping Cr. 4
Geographic Information Systems (GIS) is a powerful tool for analyzing spatial datasets, and for this reason it can be applied to many geological problems. This course will provide students the necessary skills to use GIS with an emphasis on geological applications. It will focus on geologic aspects of GIS analysis such as spatial analysis, geologic mapping, topographic analysis, and the importation and interpolation of aerial photos/satellite images and field data. Offered Winter.
Prerequisite: GEL 1010 with a minimum grade of C

GEL 5993 Writing Intensive Course in Geology Cr. 0
Satisfies General Education Requirement: Writing Intensive Competency Disciplinary writing assignments under the direction of faculty member. Must be selected in conjunction with course designated as corequisite. See section listing in Schedule of Classes for corequisites available each term. Satisfies the University General Education Writing Intensive Course in the Major requirement. Required for all majors. Offered Every Term.
Prerequisites: May be taken concurrently: GEL 3160 with a minimum grade of D- or GEL 3300 with a minimum grade of D- or GEL 3400 with a minimum grade of D- or GEL 3540 with a minimum grade of D- or AFS 2390 with a minimum grade of C or ENG 2390 with a minimum grade of C or ENG 3010 with a minimum grade of C or ENG 3020 with a minimum grade of C or ENG 3050 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students.

GEL 6400 Nuclear Geology Cr. 4
Introduction to various physical and chemical age-dating methods applied to geological and cosmological objects. Offered Every Other Year.
Prerequisites: PHY 2130 with a minimum grade of D- and PHY 2140 with a minimum grade of D- or PHY 2170 with a minimum grade of D- and PHY 2180 with a minimum grade of D- and CHM 1220 with a minimum grade of D- and CHM 1230 with a minimum grade of D- and GEL 1010 with a minimum grade of D-

GEL 6500 Earth Resources and the Environment Cr. 3
Examines the nature of Earth resources, as well as critical issues surrounding these resources. Analyzes the impacts of resource usage on the Earth environment. Covers all major types of Earth resources—energy, metallic, nonmetallic, water, soil. Offered Every Other Year.
Prerequisites: GEL 1010 with a minimum grade of C

GEL 7990 Directed Study in Geology Cr. 2-8
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 8 Credits

GEL 7997 Research in Geology Cr. 3-4
Independent work in laboratory or field. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 8 Credits

GEL 8999 Master's Thesis Research and Direction Cr. 1-8
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students with a class of Candidate Masters.
Repeatable for 8 Credits

GER - GERMAN

GER 1010 Elementary German I Cr. 4
Development of ability to speak and read German. Offered Every Term.
Course Material Fees: $5

GER 1020 Elementary German II Cr. 4
Continuation of GER 1010. Offered Every Term.
Prerequisites: GER 1010 with a minimum grade of C
Course Material Fees: $5

GER 2010 Intermediate German Cr. 4
Satisfies General Education Requirement: Foreign Culture, Global Learning Inquiry
Continuation of GER 1020. Reading of graded German literature and grammar review. Offered Every Term.
Prerequisites: GER 1020 with a minimum grade of C
Course Material Fees: $5

GER 2020 Everyday Encounters in Language and Culture Cr. 4
Solidifies students' ability to express themselves in German with increased clarity and grammatical accuracy when writing and speaking about topics of personal experience (studies, work, family, daily life, leisure time), current events, and issues of general interest. Offered Every Term.
Prerequisites: May be taken concurrently: GER 2010 with a minimum grade of C
Course Material Fees: $5

GER 2310 Short Fiction from Central Europe and Russia Cr. 3
Satisfies General Education Requirement: Cultural Inquiry, Philosophy Letters
Explores how writers use short fictional forms, such as parable, short story, fairy tale, and satire, to express important themes in the Central European experience, including violence and cruelty, freedom and imprisonment, utopian visions, and urban life. Offered Fall.
Equivalent: SLA 2310

GER 2700 Anguish and Commitment: European Existentialist Literature Cr. 3-4
Satisfies General Education Requirement: Cultural Inquiry, Philosophy Letters
A team-taught interdisciplinary study in English of representative works by European existentialist writers: Dostoevsky, Hesse, Kafka, Pirandello, Sartre, Camus and Unamuno. Offered Every Other Year.
Equivalent: FRE 2700, ITA 2700, SPA 2700

GER 2710 Resistance, Rebellion, Revolution: Transitional Moments in German Culture and History Cr. 3
Satisfies General Education Requirement: Civ and Societies (CLAS only), Foreign Culture, Global Learning Inquiry
Transitional moments in German culture and history from the Middle Ages to the present are examined through literary and non-literary texts and cultural artifacts. Taught in English. Offered Fall.

GER 2991 Understanding the Fairy Tale Cr. 3
Satisfies General Education Requirement: Cultural Inquiry, Philosophy Letters
Fairy tale's meaning and role in Western society from the Brothers Grimm to Walt Disney. Methods of fairy-tale interpretation. All lectures and reading in English. Offered Every Other Year.
Equivalent: FRE 2991

GER 3100 Engaging Historical Moments Cr. 3
Further developing intermediate skills in language and cultural competency, the course explores core moments in German history through a wide range of primary sources, such as print and online journalism, new media, television, as well as popular and canonical literature and film. It may explore a particular moment in detail or examine several core moments in thematic units. Offered Yearly.
Prerequisites: GER 2020 with a minimum grade of C

GER 3200 Exploring Modern Identities Cr. 3
Focuses on contemporary texts from various German language media that reflect the diversity of perspectives and identities in Germany-speaking countries. Consolidates intermediate proficiency skills, particularly in writing and speaking, by exploring language as it is embedded in German culture. Offered Yearly.
Prerequisites: GER 2020 with a minimum grade of C

GER 3410 New Soil, Old Roots: The Immigrant Experience Cr. 3
Satisfies General Education Requirement: Civ and Societies (CLAS only), Diversity Equity Incl Inquiry, Foreign Culture, Global Learning Inquiry
Armenian, German, Jewish, Polish, Russian and Ukrainian immigration to the United States, its effects on the cultures (language, literature, religion, politics, music, art and theatre) of these ethnic groups and its influence upon American life. Offered Fall.
Equivalent: ARM 3410, POL 3410, RUS 3410, SLA 3410

GER 3700 The Changing Face of Europe Cr. 1-2
Special topics relating to Central, Eastern and Western Europe. Offered Intermittently.
Equivalent: POL 3700, RUS 3700, SLA 3700

GER 4600 Products, Perspectives, and Practices of Culture Cr. 3
Introductory seminar in German Studies, designed to build skills in critical reading, research and writing. Focus is on a selected literary or cultural topic. Offered Intermittently.
Prerequisites: GER 3100 with a minimum grade of C and GER 3200 with a minimum grade of C

GER 5000 German Practicum Cr. 3
Controlled application of active language skills for students electing a Ph.D. minor in German, or German as a graduate reading language. No Ph.D. degree credit. Offered for graduate credit only. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 9 Credits

GER 5100 Advanced Rhetoric and Composition Cr. 3
This course expands and refines students German communication skills with a special emphasis on communicating in oral and written discourse in both academic and professional contexts. Offered Every Other Year.
Prerequisites: GER 3100 with a minimum grade of C and GER 3200 with a minimum grade of C

GER 5210 German Translation Studies Cr. 3
Introduces students to the study of translation, both as theory and practice, through the discussion of key texts in translation theory, and weekly practice focused on the acquisition of different translation techniques and improving students' understanding of the subtleties of the German language. Students will polish their language skills while exercising their creative faculties through translations of various texts from different genres and media. Offered Every Other Year.
Prerequisites: GER 3100 with a minimum grade of C and GER 3200 with a minimum grade of C

GER 5350 German Film Cr. 3
Film as a new medium in late 19th century and early 20th century Germany; films produced during the Weimar Republic and under fascism; post-war West and East German cinema; German film since unification. Taught in English. Offered Fall.

GER 5390 Holocaust Studies Cr. 3-4
Interdisciplinary approach to studying the Holocaust that includes history, literature, film, aesthetics, presentation and reception, and other areas that encourage a broad and deep understanding of Holocaust Studies. Offered Intermittently.

GER 5400 Cultural Studies and Criticism Cr. 3-4
Exploration of key concepts and major figures for scholarship in literary and cultural studies. Readings and class in English. Open to students from diverse disciplines. Offered for undergraduate credit only. Offered Intermittently.
Restriction(s): Enrollment is limited to Undergraduate level students.

GER 5600 Research in German Studies Cr. 3-4
Introductory seminar for graduate students in German studies that will prepare them to write graduate research papers. Focus on a particular topic of current relevance in German studies to help participants develop skills as critical readers, researchers, and writers of scholarship-based textual analysis. Offered Fall.
Prerequisites: GER 4600 with a minimum grade of D-
Restriction(s): Enrollment is limited to Graduate level students.

GER 5770 Modernism Cr. 3-4
Fin-de-siecle Germany and Austria, modernism and the metropolis, modernism and the new media (film, radio), art and politics of the Weimar Republic. Offered Intermittently.
Repeatable for 8 Credits

GER 5780 Texts and Contexts Since 1945 Cr. 3-4
Recent and contemporary literary and cultural works in context of the political, social and intellectual developments since 1945. Offered Intermittently.
Repeatable for 8 Credits

GER 5790 Topics in German Studies Cr. 1-4
Special topics in German studies, focusing on culture, literature, language, or area studies. Topics to be announced in Schedule of classes. Offered Intermittently.
Repeatable for 12 Credits

GER 5800 Literature and Cultures of Minorities Cr. 3-4
Focuses on literature by and about marginalized groups and on their cultures in postwar Germany. Offered Intermittently.

GER 5990 Directed Study Cr. 1-4
Offered Every Term.
Repeatable for 8 Credits

GER 5993 Writing Intensive Course in German Cr. 0
Satisfies General Education Requirement: Writing Intensive Competency
Disciplinary writing assignments under the direction of a faculty member. Must be selected in conjunction with a course designated as a corequisite; see section listing in Schedule of Classes for corequisites available each term. Satisfies the University General Education Writing Intensive Course in the Major requirement. Required for all majors. Offered Fall, Winter.
Prerequisites: May be taken concurrently: GER 4600 or GER 5000-5999 or AFS 2390 with a minimum grade of C or ENG 2390 with a minimum grade of C or ENG 3010 with a minimum grade of C or ENG 3020 with a minimum grade of C or ENG 3050 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students.

GER 5999 Internship in German Studies Cr. 3
Internship in a public or private organization related to German studies. Offered for undergraduate credit only. Offered Every Term.
Prerequisite: GER 3100 with a minimum grade of C- or GER 3200 with a minimum grade of C-
Restriction(s): Enrollment is limited to students with a major, minor, or concentration in German or German Honors.

GER 7010 Introduction to Literary Theory Cr. 3
Graduate-level introduction to key critical perspectives, theories, problems, and questions that have informed the discussions and analyses of twentieth- and twenty-first-century literary and cultural scholars. Specific theoretical paradigms used to determine the task of textual interpretation, locate the limits of each approach, trace the emergence of subsequent theoretical paradigms, and think about how such theories might or might not be relevant in the study of specific texts. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: CLA 7010, FRE 7010, ITA 7010, NE 7010, SLA 7010, SPA 7010

GER 7390 Holocaust Studies Cr. 3-4
Interdisciplinary approach to studying the Holocaust that includes history, literature, film, aesthetics, presentation and reception, and other areas that encourage a broad and deep understanding of Holocaust Studies. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students.

GER 7400 Cultural Studies and Criticism Cr. 3-4
Exploration of key concepts and major figures for scholarship in literary and cultural studies. Readings and class in English. Open to students from diverse disciplines. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students.

GER 7770 Modernism Cr. 3-4
Fin-de-siecle Germany and Austria, modernism and the metropolis, modernism and new media (film, radio), art and politics of the Weimar Republic. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 8 Credits

GER 7780 Texts and Contexts Since 1945 Cr. 3-4
Recent and contemporary literary and cultural works in context of the political, social and intellectual developments since 1945. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 8 Credits

GER 7790 Topics in German Studies Cr. 1-4
Special topics in German studies, focusing on culture, literature, language, or area studies. Topics to be announced in Schedule of Classes. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 12 Credits

GER 7800 Literatures and Cultures of Minorities Cr. 3-4
Focuses on literature by and about marginalized groups and on their cultures in postwar Germany. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students.

GER 7996 Research Project Cr. 1-4
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 12 Credits

GER 7999 Master's Essay Direction Cr. 1-3
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students with a class of Candidate Masters.

GER 8999 Master's Thesis Research and Direction Cr. 1-8
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students with a class of Candidate Masters.
Repeatable for 8 Credits

GER 9990 Pre-Doctoral Candidacy Research Cr. 1-8
Research in preparation for doctoral dissertation. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 12 Credits

GER 9991 Doctoral Candidate Status I: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.

GER 9992 Doctoral Candidate Status II: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: GER 9991 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

GER 9993 Doctoral Candidate Status III: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: GER 9992 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

GER 9994 Doctoral Candidate Status IV: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: GER 9993 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

GER 9995 Candidate Maintenance Status: Doctoral Dissertation Research and Direction Cr. 0
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $370.26
Repeatable for 0 Credits

GKA - GREEK: ANCIENT

GKA 1010 Elementary Ancient Greek I Cr. 4
Basic vocabulary, forms, grammar, and introduction to ancient Greek culture. Offered Every Other Fall.
Course Material Fees: $5

GKA 1020 Elementary Ancient Greek II Cr. 4
Continuation of GRK 1010 with increasing emphasis on reading ability. Offered Every Other Winter.
Prerequisites: GKA 1010 with a minimum grade of D-
Course Material Fees: $5

GKA 2010 Intermediate Ancient Greek I Cr. 4
Satisfies General Education Requirement: Foreign Culture, Global Learning Inquiry
Review of Greek grammar, and readings from selected Greek prose authors such as Plato and Lysias. Offered Every Other Fall.
Prerequisites: GKA 1020 with a minimum grade of D-
Course Material Fees: $5

GKA 2020 Intermediate Ancient Greek II Cr. 4
Introduction to genre; poetic language, meters, sociological and historical context; reading of selected passages from the Iliad or the Odyssey; study of the fundamentals of Homeric Greek. Offered Every Other Winter.
Prerequisites: GKA 2010 with a minimum grade of D-

GKA 3300 Greek Tragedy Cr. 4
One tragedy of Euripides, Sophocles, or Aeschylus, supplemented by selections from the dramas of the other two playwrights. Offered Intermittently.
Prerequisites: GKA 2020 with a minimum grade of D-

GKA 5000 Ancient Greek for Graduate Students Cr. 1-4
Basic grammar and vocabulary of Greek; leads to reading of continuous passages of poetry and prose in Greek. No credit applicable to M.A. in classics degree. Offered for graduate credit only. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 4 Credits

GKA 5200 Ancient Greek Lyric Poetry Cr. 4
Personal lyric poetry as a reflection of individual and society in the culture of the post-Homeric Greek world. Offered Intermittently.
Prerequisites: GKA 2020 with a minimum grade of D-

GKA 5350 Readings in Ancient Greek History and Culture Cr. 1-3
Readings in Greek primary sources relevant to the associated CLA course (which is taught in English). Offered Every Term.
Prerequisites: GKA 3000-3999 with a minimum grade of D- or GKM 3000-3999 with a minimum grade of D- and May be taken concurrently: CLA 5000-5999 with a minimum grade of D-
Repeatable for 6 Credits

GKA 5400 Ancient Greek Philosophy Cr. 4
The origin and development of Greek philosophy as seen through representative selections from prominent philosophers such as the Presocratics, Plato, Aristotle, Epicurus, and the Stoics. Offered Intermittently.

GKA 5500 Ancient Greek Historians Cr. 4
Prose style and historiographic techniques of ancient historians; selections from Herodotus, Thucydides, Xenophon, and Polybius. Offered Intermittently.
Prerequisites: GKA 2020 with a minimum grade of D-

GKA 5600 Ancient Greek Epic Poetry Cr. 4
Study in ancient Greek of Homer, Hesiod, Apollonius Rhodius and others. Theory of oral vs. literary composition, the Homeric question, metrics. Offered Intermittently.
Prerequisites: GKA 2020 with a minimum grade of D-

GKA 5840 Ancient Greek: Attic Orators Cr. 4
Evolution of Greek prose style and historical context of the development of rhetoric in selected works of Attic orators. Offered Intermittently.
Prerequisites: GKA 2020 with a minimum grade of D-

GKA 5990 Directed Study Cr. 1-4
Offered Every Term.
Repeatable for 8 Credits

GKA 6250 Ancient Greek Drama Cr. 4-8
Selected readings from the plays of Aeschylus, Sophocles, or Euripides or from the plays of Aristophanes or Menander. History and theory of the development of Greek drama and its subsequent influence on world literature. Offered Intermittently.
Prerequisites: GKA 2020 with a minimum grade of D-
Repeatable for 8 Credits

GKA 7810 Studies in Ancient Greek Poetry Cr. 4
A major poet or genre. Topics to be announced in Schedule of Classes . Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 12 Credits

GKA 7820 Studies in Ancient Greek Prose Cr. 4
Study of a major prose author or genre. Topics to be announced in Schedule of Classes . Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 12 Credits

GKA 7999 Ancient Greek: Master's Essay Direction Cr. 1-4
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students with a class of Candidate Masters.

GKA 8999 Ancient Greek: Master's Thesis Research and Direction Cr. 1-8
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students with a class of Candidate Masters.
Repeatable for 8 Credits

GKM - GREEK: MODERN

GKM 1010 Elementary Modern Greek I Cr. 4
Training in pronunciation, conversation and reading; introduction to the culture of Greece today. Offered Every Other Fall.
Course Material Fees: $5

GKM 1020 Elementary Modern Greek II Cr. 4
Continuation of GKM 1010. Offered Every Other Winter.
Prerequisites: GKM 1010 with a minimum grade of D-
Course Material Fees: $5

GKM 2010 Intermediate Modern Greek I Cr. 4
Satisfies General Education Requirement: Foreign Culture, Global Learning Inquiry
Review of grammar, practice in oral and written modern Greek, based on readings in modern Greek literature. Offered Every Other Fall.
Prerequisites: GKM 1020 with a minimum grade of D-
Course Material Fees: $5

GKM 2020 Intermediate Modern Greek II Cr. 4
Special attention to vocabulary enrichment and writing compositions. Class conversation based on reading of cultural materials and short stories. Translation exercises from English to Greek; study of appropriate grammar rules. Offered Every Other Winter.
Prerequisites: GKM 2010 with a minimum grade of D-
Course Material Fees: $5

GKM 3530 The World of Early Christianity Cr. 3
A historical survey of the cultural, social, and literary world of early Christianity. Offered Every Other Year.
Equivalent: CLA 3530

GKM 3590 Byzantine Civilization Cr. 3
Satisfies General Education Requirement: Historical Studies, Social Inquiry
Survey of Byzantine culture, religion, society, and literature from late Antiquity to 1453, through secondary and primary sources in translation. Offered Yearly.
Equivalent: CLA 3590

GKM 3710 Modern Greek Literature and Culture in English Cr. 3-4
Satisfies General Education Requirement: Civ and Societies (CLAS only), Foreign Culture, Global Learning Inquiry
Survey of the culture and civilization of modern Greece through a study of modern Greek history, religion, and literary traditions. Offered Every Term.

GKM 3720 Greek Identity from Antiquity to Modernity Cr. 3
Satisfies General Education Requirement: Cultural Inquiry, Historical Studies
Explores what it meant to be Greek from Archaic Greece to the modern era. Offered Yearly.
Equivalent: CLA 3720

GKM 3930 Topics in Byzantine and Modern Greek Studies Cr. 3
In-depth study of aspects of Byzantine and Modern Greek history, society, literature, and culture. Topics to be announced in Schedule of Classes. All readings in English. Offered Intermittently.
Repeatable for 9 Credits

GKM 3990 Directed Study Cr. 1-4
For students desiring additional work in the language at the intermediate level; for programs of work not included in scheduled courses, either in language or literature. Offered Every Term.
Prerequisites: GKM 2020 with a minimum grade of D-
Repeatable for 8 Credits

GKM 5000 Modern Greek for Graduate Students Cr. 1-4
Basic grammar and vocabulary of modern Greek. Emphasis on conversation, reading and writing. Offered for graduate credit only. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 4 Credits

GKM 5530 The World of Early Christianity Cr. 3
A historical survey of the cultural, social, and literary world of early Christianity. Offered Every Other Year.
Equivalent: CLA 5530

GKM 5590 Byzantine Civilization Cr. 3
Survey of Byzantine culture, religion, society, and literature from late Antiquity to 1453, through secondary and primary sources in translation. Offered Yearly.
Equivalent: CLA 5590

GKM 5720 Greek Identity from Antiquity to Modernity Cr. 3
Satisfies General Education Requirement: Historical Studies
Explores what it meant to be Greek from Archaic Greece to the modern era. Offered Yearly.
Equivalent: CLA 5720

GKM 5930 Topics in Byzantine and Modern Greek Studies Cr. 3
In-depth study of aspects of Byzantine and Modern Greek history, society, literature, and culture. Topics to be announced in Schedule of Classes. All readings in English. Offered Intermittently.
Repeatable for 9 Credits

GKM 5990 Directed Study Cr. 1-4
Offered Every Term.
Repeatable for 8 Credits

GLS - GLOBAL STUDIES

GLS 2700 Introduction to Global Stories Cr. 3
Satisfies General Education Requirement: Cultural Inquiry, Global Learning Inquiry, Philosophy Letters
Provides students with an introductory understanding of constructions and representations of global issues and globalization in literature, film, media and the visual arts and of the ways in which human stories contribute to complex matrices of representation. Offered Fall, Winter.

GLS 2800 Introduction to Global Issues and Institutions Cr. 3
Satisfies General Education Requirement: Global Learning Inquiry, Social Inquiry, Social Sciences
Provides a broad overview of some of the big and controversial questions facing our increasingly globalized world today and introduces some of the tools we have to confront these issues. Topics include the conflict and security threats, protection of human rights, global warming, and resource management. Offered Fall, Winter.
Equivalent: HIS 2800

GLS 2900 Intercultural Competence for a Global World Cr. 3
The objectives of this course are to explore cultures via characteristics of intra-cultural communication (varieties of language marked by history and region, gender, and migration); to acknowledge regional and ethnic variations of cultural value systems as expressed in everyday interactions as well as cultural products; to learn to reflect on one's own cultural "branding" or vantage point as determined by ethnicity, region, and language(s) as well as within the context of lifelong learning at home and abroad. Offered Winter.

GLS 3410 Global Health Cr. 3
Satisfies General Education Requirement: Global Learning Inquiry, Social Inquiry, Social Sciences
Introduces students to problems of disease and disorder worldwide and looks at various efforts to define and address these problems through a social science perspective. Offered Winter.
Equivalent: ANT 3410, PH 3410

GLS 3700 Globalization: Theories, Practices, Implications Cr. 3
Satisfies General Education Requirement: Global Learning Inquiry, Social Inquiry, Social Sciences
Students develop analytical tools for appraising processes of globalization; acquire a familiarity with the current topical concerns of global studies; and examine economic, political, and cultural approaches to globalization. Offered Fall, Winter.
Equivalent: ANT 3700

GLS 3810 Topics in Global Studies Cr. 1
Special topics in global history, politics, culture, science, health, law, philosophy, language, and other fields and issues. Topics to be announced in the class schedule. Offered Every Term.
Repeatable for 6 Credits

GLS 3830 Topics in Global Studies Cr. 3
Special topics in global history, politics, culture, science, health, law, philosophy, language, and other fields and issues. Topics to be announced in the class schedule. Offered Every Term.
Repeatable for 6 Credits

GLS 5500 Internship in Global Studies Cr. 3
Offered for undergraduate credit only. Internship in a public or private organization related to global studies. Offered Every Term.
Prerequisite: GLS 3700 with a minimum grade of C-

GLS 5540 World Environmental History since 1900 Cr. 4
This course examines the transformation of the relationship between human society and the natural environment in global context since 1900. Available for undergraduate credit only. Offered Fall.
Equivalent: HIS 5540

GLS 5993 Writing Intensive Course in Global Studies Cr. 0
Satisfies General Education Requirement: Writing Intensive Competency
Offered for S and U grades only. No degree credit. Required for all majors. Disciplinary writing assignments under the direction of a faculty member. Must be selected in conjunction with a course designated as a corequisite. Satisfies the University General Education Writing Intensive Course in the Major requirement. Offered Every Term.
Prerequisites: AFS 2390 with a minimum grade of C or ENG 2390 with a minimum grade of C or ENG 3010 with a minimum grade of C or ENG 3020 with a minimum grade of C or ENG 3050 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students.

GPH - GEOGRAPHY

GPH 1100 World Regional Patterns Cr. 4
Satisfies General Education Requirement: Social Inquiry, Social Sciences
Concepts and theory in analyzing areal relationships and distinguishing regional patterns of human activity; cultural factors and physical conditions (climate, landforms) as factors in regional delineations; comparisons and contrasts in regional economic development; analysis of concentrations/dispersals of human activity; local, national and regional phenomena in the interpretation of global patterns. Offered Every Term.

GPH 2000 Introduction to Urban Studies Cr. 4
Satisfies General Education Requirement: Social Inquiry, Social Sciences
Urban phenomena both past and present, including the quality and nature of urban life; major concerns of urban areas; perspectives and techniques of various urban-related disciplines. Offered Every Term.
Equivalent: HIS 2000, PS 2000, SOC 2500, US 2000

GPH 2200 Geography of Michigan Cr. 3
The spatial physical, social, environmental, settlement and developmental patterns and problems of the State of Michigan. Offered Intermittently.

GPH 2700 Introduction to Canadian Studies Cr. 3
Satisfies General Education Requirement: Foreign Culture, Global Learning Inquiry
Survey of Canada in its cultural, literary, historical, geographical and political aspects; key concepts and social patterns that define the Canadian experience. Offered Yearly.
Equivalent: ENG 2670, HIS 2700, PS 2700

GPH 3130 Introductory Urban Geography Cr. 4
Satisfies General Education Requirement: Social Inquiry, Social Sciences
An introduction to the geographer's view of cities, with emphasis on the North American city. Topics include the pre-industrial city, migration, evolution of the American urban pattern, city classification, city-regional relationships, and the city's internal structure (ethnic, residential, commercial, and industrial). Offered Yearly.

GPH 3200 Europe Cr. 3
Satisfies General Education Requirement: Social Inquiry, Social Sciences
Analysis of European countries. Emphasis on population changes resource problems, industrial location, urbanization, regional development, and emerging economic and political unities. Offered Intermittently.

GPH 3600 Introduction to Geographic Information Systems Cr. 4
Theory and application of computer-based systems for the analysis and representation of spatial data. Offered Yearly.

GPH 3900 Topics in Geography Cr. 3
Offered Every Other Year.
Repeatable for 6 Credits

GPH 3990 Directed Study Cr. 1-3
Readings and research. Offered Every Term.
Repeatable for 9 Credits

GPH 4600 Advanced Geographic Information Systems Cr. 4
Application of GIS to analyses of spatially-referenced data. Offered Yearly.
Prerequisites: GPH 3600 with a minimum grade of D-
Repeatable for 998.99 Credits

GPH 5650 Metropolitan Detroit Cr. 3
Comprehensive analysis of metropolitan Detroit: city, suburbs and surrounding region. Historical development, physical foundations, economic and political expansion, ethnic and cultural areas, geopolitical infrastructure, social change, present-day problems and current events shaping the area's spatial structure. Offered Yearly.
Equivalent: UP 5650

GPH 6420 Quantitative Techniques I Cr. 4
Statistical inference with emphasis on applications including central tendency, dispersion, hypothesis testing, correlation and regression. Offered for undergraduate credit only. Offered Yearly.
Restriction(s): Enrollment is limited to Undergraduate level students.
Equivalent: UP 6320

GPH 7990 Directed Study Cr. 2-3
Readings and research. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 8 Credits

GPH 7999 Master's Essay Direction Cr. 1-3
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.

GPH 8999 Master's Thesis Research and Direction Cr. 1-8
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 8 Credits

GS - GRADUATE SCHOOL

GS 0900 Essential Research Practices: Responsible Conduct of Research Cr. 0
This course presents both general and directed instruction/discussion in topics related to Responsible Conduct of Research (RCR). Available for S/U grading only. Offered Fall, Winter.

GS 5785 Academic Writing for Graduate Students Cr. 3
Emphasis on learning and executing written genres common to research and presentation activities in graduate school. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: ENG 5785
Repeatable for 9 Credits

GS 7890 Preparing Doctoral Trainees for Multiple Careers Cr. 1
Offered by the Graduate School for doctoral students who wish to better prepare for various professional careers. Focuses on enhancing students' skill sets for navigating the job market. This course is open to doctoral students who have completed at least one year of coursework and who have not yet entered maintenance status. Offered Spring/Summer.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 2 Credits

GS 7900 Introduction to College Teaching and Learning Cr. 1
Provides an introduction to the principles and performance of college teaching through an examination of current research and best practices related to teaching and learning in a range of higher education settings and contexts (i.e., traditional, hybrid and online). It offers opportunities for the development and improvement of participants' instructional skills from both a theoretical and a practice-based understanding of excellence in teaching. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 2 Credits

GS 7991 Doctoral Program Internship Course Cr. 1-2
Practical training experience in industry, government offices/labs or other professional settings. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 2 Credits

GSC - GLOBAL SUPPLY CHAIN MANAGMENT

GSC 3600 Operations and Supply Chain Management Cr. 3
Analysis of production and supply chain systems. Topics include forecasting, production planning and scheduling, quality control, cost control, inventory control, capacity planning, purchasing, logistics, risk management, and other related subjects. Extensive coverage of SCM strategy, manufacturing, and general SCM strategy related to purchasing and logistics. Offered Every Term.
Restriction(s): Enrollment is limited to Undergraduate level students.

GSC 4500 Business Co-op Assignment Cr. 0
Opportunity to put theory into practice on the job. Students will normally be assigned to cooperating business organizations for internship periods of one semester. No credit toward degree. Offered Every Term.
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the BA in Business Administration or BS in Business Administration programs.
Equivalent: ACC 4500, FIN 4500, MGT 4500, MKT 4500

GSC 4990 Directed Study in Global Supply Chain Management Cr. 1-3
Advanced readings and research or tutorial under supervision of faculty member. Offered Every Term.
Prerequisites: GSC 5620 with a minimum grade of C or BLG 5620 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the BA in Business Administration or BS in Business Administration programs.
Repeatable for 3 Credits

GSC 4991 Study Abroad in Supply Chain Management Cr. 3
Study abroad programs in various countries. Programs run 10-15 days in length. Recent country programs in China, Poland, and Italy. Travel within a given country with visits to various companies and cultural attractions. Traveling costs are over and above tuition and vary by country. Various reading and assignments required. Offered Winter, Spring/Summer.
Equivalent: MGT 4991, MKT 4991
Repeatable for 6 Credits

GSC 5600 Logistics and Transportation Strategy Cr. 3
An overview of logistics strategy with an emphasis on transportation. Study of the management of the movement of raw materials and finished products including the development of transportation strategies and objectives, and the selection of modes and carriers. Offered for undergraduate credit only. Offered Every Term.
Prerequisites: GSC 3600 with a minimum grade of D-
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business; enrollment limited to students in the BA in Business Administration or BS in Business Administration programs.

GSC 5620 Global Supply Chain Management Cr. 3
Concepts of managing operations and supply chains that span multiple countries. Topics covered include, Sourcing in International Settings, Global Logistics and Trade Management, Global Plant Location and Manufacturing Network Design, and Managing International Production Operations. Emerging concepts in the discipline will also be discussed. Offered for undergraduate credit only. Offered Every Term.
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business; enrollment limited to students in the BA in Business Administration or BS in Business Administration programs.

GSC 5650 Strategic Procurement Cr. 3
Principles of the purchasing function with topics including sourcing decisions, negotiations, buyer/seller relationships in the supply chain, supplier quality issues, supplier selection, price determination, ethical issues, legal issues, and international issues. Extensive coverage of automotive industry topics and perspectives. Offered for undergraduate credit only. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business; enrollment limited to students in the BA in Business Administration or BS in Business Administration programs.

GSC 5670 Special Topics in Supply Chain Management Cr. 3
Offered Intermittently.
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.
Repeatable for 6 Credits

GSC 5680 Production Planning and Control Cr. 3
Concepts for planning and management of production resources in manufacturing organizations. Topics covered include: Demand Management, Sales and Operations Planning, Master Production Scheduling, Materials Requirement Planning, and Capacity Planning in a manufacturing environment. Emerging concepts in the discipline will also be covered. Offered for undergraduate credit only. Offered Fall.
Prerequisites: ISM 3600 with a minimum grade of D- or BA 3600 with a minimum grade of D- or ISM 4600 with a minimum grade of D-
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

GSC 5690 Principles of Quality Management Cr. 3
Quality control overview with a focus on auto industry processes and including Advanced Product Quality Planning (APQP) processes for new product development in the auto industry, Six Sigma processes, statistical quality control including process capability, control charts, and acceptance sampling procedures. Offered for undergraduate credit only. Offered Fall, Winter.
Prerequisites: GSC 3600 with a minimum grade of D-
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business; enrollment limited to students in the BA in Business Administration or BS in Business Administration programs.

GSC 5890 Internship in Global Supply Chain Management Cr. 3
Student works a minimum of 160 hours. Offered for undergraduate credit only. Offered Every Term.
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business; enrollment limited to students in the BA in Business Administration or BS in Business Administration programs.

GSC 5996 Process Analysis and Cost Estimating for Buyers Cr. 3
Focused on providing future buyers and SCM professionals an understanding of basic production processes and the cost and quality drivers that impact supplier performance. Helps buyers learn what to look for when visiting suppliers. Teaches students how to identify and evaluate supplier cost and quality drivers. There will be multiple supplier visits during class hours. Offered for undergraduate credit only. Offered Winter.
Prerequisites: GSC 3600 with a minimum grade of D-
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

GSC 6997 Global Supply Chain Analysis and Planning Cr. 3
Capstone course in Global Supply Chain Management major.
An emphasis on analysis, planning and strategy. Use of supply chain simulation games and/or cases to provide students with a comprehensive view of supply chain issues, and an experience running a simulated supply chain, and/or addressing critical problems from a case perspective. Offered for undergraduate credit only. Offered Every Term.
Prerequisites: GSC 3600 with a minimum grade of D- and GSC 5620 with a minimum grade of D- and GSC 5650 with a minimum grade of D-
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business; enrollment limited to students in the BA in Business Administration or BS in Business Administration programs.

GSC 7010 Supply Chain Decision Tools Cr. 3
Provides hands-on familiarity with supply chain decision tools and fundamental approaches to supply chain decision making. examples of topics covered include multi criteria decision making, efficiency analysis, cost-benefit analysis, decision analysis with simulations, etc. Capabilities of state of the art decision tools available to managers will also be discussed. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.

GSC 7260 Theory of Constraints: Breakthrough Solutions Cr. 3
Problem solving based on Theory of Constraints logic process. Use of cause-effect logic diagrams to identify root cause of problems, discover breakthrough solutions, specify expected results of these solutions (including negative side effects which can thus be avoided), overcome obstacles to implementation, and construct a detailed plan for implementation of solutions. Applications to management of business and other operations. Offered Spring/Summer.
Prerequisites: May be taken concurrently: BA 6025 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

GSC 7620 Global Supply Chain Management Cr. 3
Introduction to global supply chain management, integrating materials management and physical distribution through the investigation of transportation, inventory, handling and storage, acquisition, order processing and facility location subsystems. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.

GSC 7650 Strategic Procurement Cr. 3
Creation of competitive advantage with superior procurement management. Topics include: negotiating, relationship to the supply chain, quality issues, supplier selection and management, quantity and delivery, and price determination. Strategic, ethical, legal and international issues. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.

GSC 7670 Special Topics in Supply Chain Management Cr. 3
Topics range from automotive supply chain management to international supply chain management fields and countries. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 6 Credits

GSC 7680 Manufacturing Planning and Control Cr. 3
Covers concepts for management of production resources in manufacturing organizations. Topics covered include demand management, sales & operations planning, master production scheduling, material requirement planning, capacity planning & management and production activity control. Emerging concepts in the discipline will also be discussed. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.

GSC 7890 Internship in Global Supply Chain Cr. 3
Student works a minimum 160 hours for fifteen weeks in an entry-level management position in global supply chain. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Business.

GSC 7910 Managing Automotive Supply Chains Sustainability Cr. 3
Covers concepts for sustainable management of supply chains taking a holistic view of the interaction between firms, environment and society. Topics covered include: supplier management for sustainability, measurement of environmental and social impact, Life Cycle Analysis (LCA), conflict minerals reporting, automotive industry guiding principles for sustainability, lean and green interface, product design for sustainability, recycling, reusing, and reverse logistics. Emerging concepts in the discipline will also be discussed. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students.

GSC 7920 Supply Chain Process Analysis and Costing Cr. 3
Develops understanding about manufacturing processes in a wide range of products. The class will also help develop skills for cost estimating and managing sourcing in manufacturing environments. Topic covered include, how to conduct supplier site visits, viewing sales pitches, learn different types of manufacturing processes for metals, plastic and electronics and how to estimate their costs. Travel in the Detroit area will be required for the class. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students.

GSC 7930 Managing Risk in Automotive Supply Chains Cr. 3
Explores the area of risk management spanning aspects of strategic, operating, compliance and financial risks in automotive supply chains. Topics discussed include: risk identification, assessment and response, risk analysis tools (e.g. Process FEMA), risk mitigation, risk recovery and evaluation of control alternatives, crisis management and business continuity planning. Emphasis is placed on managing risk in internal operations as well as the supply network. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students.

GSC 7940 Buyer Supplier Relationships in the Auto Industry Cr. 3
Provides a study of issues in managing supplier relationships in the automotive. Topics such as supplier development, supplier performance assessment, monitoring and improvement, and OEM-supplier relationships will be discussed along with emerging trends in the industry. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.

GSC 7950 Auto Industry SCM Capstone Cr. 3
Provides a study of issues in managing automotive supply chains such as: supply chain strategy, managing global manufacturing networks, logistics and trade management in auto networks, make-buy decisions, total cost of ownership, global automotive component sourcing and logistics, managing quality and risk, etc. Case situations of real companies facing these issues will be analyzed. Offered Winter.
Prerequisite: GSC 7620 with a minimum grade of C and GSC 7650 with a minimum grade of C and GSC 7680 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

GSC 7960 Lean Six Sigma Cr. 3
All organizations strive to improve efficiency and reduce waste, i.e. become lean enterprises. This course provides students with the core concepts related to managing lean organizations and implementing six sigma. Topics covered include, lean principles, process capability, value stream mapping, process improvement, and six sigma implementation. Offered Winter, Spring/Summer.
Restriction(s): Enrollment is limited to Graduate level students.

GSC 7991 Principles of Quality Management Cr. 3
Introduction to philosophies of quality management and quality certification standards such as ISO 9000. System analysis, business process design, leadership, benchmarking, quality standards, performance standards, customer focus. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Graduate level students.

GSC 7992 Methods of Quality Management Cr. 3
Selection, implementation and applications of the most commonly-used quality methods: statistical process control, design of experiments, process analysis, error proofing, decision analysis, and response surface methods. Offered Spring/Summer.
Restriction(s): Enrollment is limited to Graduate level students.

GSC 7995 Directed Study in Global Supply Chain Cr. 1-3
Advanced independent readings and research under supervision of a graduate faculty member, in areas of special interest to student and faculty member. Offered Every Term.
Prerequisites: GSC 7620 with a minimum grade of C or GSC 7650 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Business.
Repeatable for 3 Credits

GSW - GENDER SEXUALITY AND WOMEN'S STUDIES

GSW 2500 Humanities Perspectives on Gender, Sexuality, and Women Cr. 3
Satisfies General Education Requirement: Cultural Inquiry, Diversity Equity Incl Inquiry, Philosophy Letters
Questions surrounding gender and sexuality, focusing on the ways in which they have been constructed and represented in different historical periods and geographical location through literature, film, visual objects, the media, and other texts. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Undergraduate level students.

GSW 2600 History of Women, Gender and Sexuality in the Modern World Cr. 3
Satisfies General Education Requirement: Diversity Equity Incl Inquiry, Global Learning Inquiry, Historical Studies
Examination of change over time, using different historical approaches to try to account for change as specifically applicable from a comparative perspective to the experiences of women and constructions of gender and sexual identity. Offered Every Term.
Restriction(s): Enrollment is limited to Undergraduate level students.
Equivalent: HIS 2605

GSW 2650 Gender and Crime Cr. 3
Satisfies General Education Requirement: Diversity Equity Incl Inquiry
Critical examination of gender-related issues in criminal justice; impact on defendants, inmates, victims, and criminal justice personnel; relation to policy issues. Offered Yearly.
Equivalent: CRJ 2650

GSW 2700 Social Science Perspectives on Gender, Sexuality, and Women Cr. 3
Satisfies General Education Requirement: Diversity Equity Incl Inquiry, Social Inquiry, Social Sciences
Understanding the ways in which political, social and cultural institutions shape gender, sexuality, and women's experiences within a local and global context. Offered Fall, Winter.

GSW 2750 Diversity Issues in Criminal Justice Cr. 3
Satisfies General Education Requirement: Diversity Equity Incl Inquiry
Critical examination of gender, race, class, and ethnicity issues in criminal justice; impact on defendants, inmates, victims, and criminal justice personnel; relation to policy issues. No credit after CRJ/GSW 3750. Offered Yearly.
Equivalent: CRJ 2750

GSW 3520 Women and Gender in Middle East History Cr. 3
Women's role in Middle East history; impact of religion, culture, social and economic change on construction of gender in the Middle East. Offered Intermittently.
Equivalent: NE 3520

GSW 3990 Directed Studies Cr. 1-3
Individually-designed research projects, developed with a supervising professor and approved by program director. Offered Every Term.

GSW 5030 Topics in Women's Studies Cr. 3
Thematic, critical or generic study of women and literature. Topics to be announced in Schedule of Classes. Offered Yearly.
Prerequisites: AFS 2390 with a minimum grade of C or ENG 2390 with a minimum grade of C or ENG 3010 with a minimum grade of C or ENG 3020 with a minimum grade of C or ENG 3050 with a minimum grade of C
Equivalent: ENG 5030
Repeatable for 9 Credits

GSW 5035 Topics in Gender and Sexuality Studies Cr. 3
Advanced course on issues of sexuality and gender as mediated through literary and cultural study. Attention to critical theory as well as various literary and cultural forms. Topics to be announced in Schedule of Classes. Offered Yearly.
Prerequisites: AFS 2390 with a minimum grade of C or ENG 2390 with a minimum grade of C or ENG 3010 with a minimum grade of C or ENG 3020 with a minimum grade of C or ENG 3050 with a minimum grade of C
Equivalent: ENG 5035
Repeatable for 9 Credits

GSW 5110 Black Women in America Cr. 3
Satisfies General Education Requirement: Writing Intensive Competency
Social, cultural, artistic and economic development of Black women in America; topics include: racism, sexism, marriage, motherhood, feminism, and the welfare system. Offered Yearly.
Equivalent: AFS 5110

GSW 5200 Feminist, Gender, and Queer Theory Cr. 3
Overview of feminist, gender and queer theory, focusing on the three ""waves"" and the social, political, and cultural construction of femininities, masculinities, and sexualities. Offered for undergraduate credit only. Offered Yearly.
Prerequisites: GSW 2500 with a minimum grade of D- or GSW 2600 with a minimum grade of D- or GSW 2700 with a minimum grade of D-
Restriction(s): Enrollment is limited to Undergraduate level students.

GSW 5300 Topics in LGBTQ Studies Cr. 3
Focused examinations of LGBTQ studies from different disciplinary perspectives, including but not limited to literary, historical, and media studies; social sciences; and philosophy. Topics to be announced in Schedule of Classes. Offered for undergraduate credit only. Offered Fall, Winter.
Prerequisites: GSW 2500 with a minimum grade of D- or GSW 2600 with a minimum grade of D- or GSW 2700 with a minimum grade of D-
Restriction(s): Enrollment is limited to Undergraduate level students.

GSW 5400 Topics in Gender and Women's Studies Cr. 3
Focused examination of gender and women from different disciplinary perspectives, including but not limited to literary, historical, and media studies; social sciences; and philosophy. Topics to be announced in schedule of classes. Offered for undergraduate credit only. Offered Fall, Winter.
Prerequisites: GSW 2500 with a minimum grade of D- or GSW 2600 with a minimum grade of D- or GSW 2700 with a minimum grade of D-
Restriction(s): Enrollment is limited to Undergraduate level students.

GSW 5500 Internship in Gender, Sexuality, and Women's Studies Cr. 3
Internship in a public or private organization related to gender, sexuality, or women's studies. Offered for undergraduate credit only. Offered Every Term.
Restriction(s): Enrollment is limited to Undergraduate level students.

GSW 5875 Gender in Modern East Asia Cr. 4
History of gender in China, Japan, and Korea, with topics to include Confucianism, the state's role in gender construction, nationalism, imperialism, marriage, family, labor, sexuality, and feminism. Offered Every Other Year.
Equivalent: ASN 5875, HIS 5875

GSW 5990 Senior Project Seminar Cr. 4
Scholarly research project or internship combined with scholarship, resulting in substantial paper. Students meet with instructor several times during semester. Offered Yearly.
Prerequisite: GSW 5200

GSW 7200 Feminist, Gender, and Queer Theory Cr. 3
Overview of feminist, gender and queer theory, focusing on the three ""waves"" and the social, political, and cultural construction of femininities, masculinities, and sexualities. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students.

GSW 8150 Seminar in the History of Gender, Women and Sexuality Cr. 3
Research seminar in the History of Gender, Women, and Sexuality. Topics vary by Term. Offered Yearly.
Prerequisites: HIS 7830 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: HIS 8150
Repeatable for 6 Credits

HE- HEALTH EDUCATION

HE 1010 Foundations of Health and Health Promotion Cr. 3
Foundations of the community health education profession and practice, including history, settings, organizations, ethics and employment. Offered Yearly.
Restriction(s): Enrollment is limited to Undergraduate level students.

HE 2310 Dynamics of Personal Health Cr. 3
Critical health issues relevant to both traditional and non-traditional college students today. In-depth study of varied health issues and applications to personal, family and community needs. Offered Every Term.

HE 2320 Advancing Policy in Community Health Education Cr. 3
Provides an overview of the community health policy process, advocacy and social, political and environmental issues affecting urban populations. Offered Every Other Year.

HE 3300 Health of the School Child Cr. 3
Health status and problems of school-age children. Role of teacher and schools in promoting healthy behavior. Emphasis on impact of institutional forces (e.g., family, media) on development of children's health beliefs and behavior. Offered Every Term.

HE 3330 Methods in Teaching Health Cr. 3-4
Principles, curriculum development, and techniques in teaching health at elementary and secondary school levels. Offered Fall.
Prerequisites: HE 3300 with a minimum grade of D- and HE 3440 with a minimum grade of D- and HE 4340 with a minimum grade of D- and HE 5440 with a minimum grade of D- and HEA 2310 with a minimum grade of D-
Restriction(s): Enrollment limited to students in the College of Education.

HE 3344 Methods and Materials in Community Health Education Cr. 3
Frameworks, practical applications and mechanics of conducting health interventions in community settings. Offered Every Other Year.
Prerequisites: HE 1010 with a minimum grade of D-
Restriction(s): Enrollment is limited to Undergraduate level students.

HE 3440 Nutrition and Health Education Cr. 3
Relationships between dietary intake and health status in various populations. Role and responsibilities of health educators in nutrition programs. Concepts from health psychology applied to school and community approaches. Offered Fall, Winter.
Prerequisites: HEA 2310 with a minimum grade of D- or HE 2310 with a minimum grade of D- or HE 3300 with a minimum grade of D-

HE 3500 Human Disease Cr. 3
Body system impairments from disease, injury or congenital abnormalities that relate to morbidity and mortality in the U.S. Signs, symptoms, causes, prevention, and treatment. Offered Fall, Winter.
Restriction(s): Enrollment is limited to students with a major in Health Education, Health Education Honors, Kinesiology or Kinesiology Honors.

HE 3990 Individual Problems in Health Cr. 1-3
Solving a specific personal health problem or studying a specific community health problem under the guidance of divisional staff. Offered Every Term.
Prerequisite: HE 2310 with a minimum grade of C or HE 2320 with a minimum grade of C
Repeatable for 3 Credits

HE 4010 Foundations of Community Health Program Planning Cr. 3
Introduction and practical application of health promotion program planning, including: developing a need assessment, recruiting community support, writing program goals and objectives, developing a program plan, identifying existing interventions and/or designing new intervention activities to address program objectives, using theory to enhance effective programming, program implementation, budgeting and measurement. Offered Fall.
Prerequisites: HE 1010 with a minimum grade of C

HE 4340 Family and Reproductive Health Cr. 3
Program planning, curriculum development and classroom teaching strategies in the areas of human sexuality, reproductive health and venereal disease, family planning and family health. Course will satisfy Michigan Department of Education requirements for teaching in these areas. Offered Fall.

HE 4902 Health Education Internship Cr. 5-6
Students contribute expertise and enthusiasm to their host agency and demonstrate their ability to perform the duties of a community health professional. Offered Every Term.
Prerequisites: May be taken concurrently: HE 4010 with a minimum grade of D- and HE 5220 with a minimum grade of D- and HE 5993 with a minimum grade of D- or KHS 5522 with a minimum grade of D-
Restriction(s): Enrollment is limited to Undergraduate level students.
Course Material Fees: $16
Repeatable for 6 Credits

HE 5220 Health Behavior Change Cr. 3
Principles of behavior modification; theories of health behavior and program planning as they relate to health promotion and wellness. Offered Every Other Year.
Prerequisites: PSY 1010-6999 or AFS 2390 with a minimum grade of C or ENG 2390 with a minimum grade of C or ENG 3010 with a minimum grade of C or ENG 3020 with a minimum grade of C or ENG 3050 with a minimum grade of C

HE 5440 Mental Health and Substance Abuse Cr. 3
Identification, treatment, and prevention of mental health/substance abuse problems. How school-age children and their families are affected by these problems; role of the teacher. Offered Fall, Winter.
Restriction(s): Enrollment limited to students in the College of Education.

HE 5522 Health Psychology Cr. 3
Foundations of health, research methods, biological foundations of health/illness, stress, nutrition, obesity, eating disorders, substance abuse and health, cardiovascular disease, diabetes and health, exercise and cancer; HIV, AIDS, and health; pain management and patient behavior, complementary and alternative medicine, health psychology across the life span. Offered Fall.
Prerequisites: PSY 1010-6999

HE 5620 Performance Based Assessment in Health Education Cr. 3
Assessment and evaluative techniques applied to health education, including test construction and performance-based assessment. Designed to meet assessment and evaluative competencies required for entry-level health teachers in Michigan. Offered Spring/Summer.
Restriction(s): Enrollment limited to students in the College of Education.

HE 5780 Directed Student Teaching Cr. 10
Secondary school teaching experience. Offered Fall, Winter.
Restriction(s): Enrollment limited to students in the College of Education.

HE 5993 Writing Intensive Course in Health Education Cr. 0
Satisfies General Education Requirement: Writing Intensive Competency Disciplined writing assignments under direction of a faculty member. Satisfies University General Education Writing Intensive Course in the Major requirement. Offered Fall.
Prerequisites: PSY 1010-6999 or AFS 2390 with a minimum grade of C or ENG 2390 with a minimum grade of C or ENG 3010 with a minimum grade of C or ENG 3020 with a minimum grade of C or ENG 3050 with a minimum grade of C
Corequisite: HE 5522
Restriction(s): Enrollment is limited to students with a major, minor, or concentration in Health Education or Health Education Honors.

HE 6350 Health Education and the Nation's Health Cr. 3
Introductory course for graduate health program. Current national health status; contributory factors including: behaviors linked to disease, policies, problems in the health care system and delivery of health care. Offered Every Other Year.

HE 6420 Introduction to Health Education Program Design Cr. 3
Overview of health education program process in all practice settings. Introduction to needs assessment, objective writing, staff training, and evaluation in health education. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Health Education.

HE 6430 School Health Curriculum Cr. 3
Satisfies General Education Requirement: Writing Intensive Competency Principles and application of school health programming. Philosophy and foundations of health education, conducting a needs assessment and design instruction based on the assessment, implementing and evaluating the instruction, implementation of skills in a secondary classroom, assessment of the process. Satisfies General Education program Writing Intensive requirement for health teaching majors. Offered Winter.
Prerequisite: HE 3330 with a minimum grade of D- or HE 6500 with a minimum grade of D-
Restriction(s): Enrollment limited to students in the College of Education.

HE 6500 Comprehensive School Health Education Cr. 3
Overview of comprehensive school health education. Study of major comprehensive health curricula with intensive training in the Michigan Model. This class leads to certification to teach the Michigan Model in public schools. Offered Fall.
Prerequisite: HEA 2310 with a minimum grade of D- and HE 3300 with a minimum grade of D- and HE 3440 with a minimum grade of D- and HE 4340 with a minimum grade of D- and HE 5440 with a minimum grade of D-
Restriction(s): Enrollment limited to students in the College of Education.

HE 6501 Measurement and Evaluation in Community Health Education Cr. 3
Frameworks, principles, models and strategies for evaluating health education programs. Offered Every Other Year.
Prerequisites: HE 6420 with a minimum grade of C or HE 4010 with a minimum grade of C

HE 6530 Principles and Practice of Health Education and Health Promotion Cr. 3
Principles, resources and practical application of community health education in various settings, with emphasis on the role of the community health education specialist. Offered Every Other Year.

HE 6550 Teaching Methods and Techniques in Health Education Cr. 3
Strategies employed in dissemination of health information in the community and school system. Integration of cognitive skills, behavior change theory, and materials used to produce effective health instruction. Offered Every Other Year.

HE 7200 Grant Writing and Management in Health Sciences Cr. 3
Provides a hands-on approach to grant writing for health sciences programs. Strategies and tactics for seeking out, developing and managing proposals for health programs will be discussed. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.

HE 7310 Psychology of Learning Across Development Cr. 3
Course blends a selection of human development and learning theories and concepts; emphasizes application to various professional contexts, e.g., community, health, business, school, and other organizational settings; focus is on late adolescence (ages 18-22) and adulthood. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: EDP 7310

HEB - HEBREW

HEB 1010 Elementary Hebrew I Cr. 4
Reading, writing, and speaking. Emphasis on Modern Hebrew. Offered Fall.
Course Material Fees: $5

HEB 1020 Elementary Hebrew II Cr. 4
Continuation of HEB 1010. Offered Winter.
Prerequisites: HEB 1010 with a minimum grade of D-
Course Material Fees: $5

HEB 2010 Intermediate Hebrew I Cr. 4
Satisfies General Education Requirement: Foreign Culture, Global Learning Inquiry
Reading of additional cultural texts. Offered Fall.
Prerequisites: HEB 1020 with a minimum grade of D-
Course Material Fees: $5

HEB 2020 Intermediate Hebrew II Cr. 4
Reading, writing, and conversational texts. Offered Winter.
Prerequisites: HEB 2010 with a minimum grade of D-
Course Material Fees: $5

HEB 3990 Directed Study Cr. 1-4
Assigned readings of intermediate and advanced texts. Offered Every Term.
Repeatable for 4 Credits

HEB 5990 Directed Study Cr. 3-6
Assigned readings of advanced texts; guided texts. Offered Every Term.
Repeatable for 9 Credits

HIS - HISTORY

HIS 1000 World Civilization to 1500 Cr. 4
Satisfies General Education Requirement: Global Learning Inquiry, Historical Studies, Social Inquiry
Survey of ancient and medieval history from the Neolithic Revolution to 1500. Offered Every Term.

HIS 1050 History of the Headlines: United States Since World War II Cr. 3
Satisfies General Education Requirement: American Society Institution, Civic Literacy, Social Inquiry
Recent American social issues, political movements, institutions, and policy developments within the broad context of global change and conflict. Offered Every Term.

HIS 1060 Law, Citizenship, and American Culture Cr. 3
Satisfies General Education Requirement: Civic Literacy
Explores the foundations, development, and evolution of relations among law, constitutionalism, and American society from early England into the late 20th century. Emphasis on the emergence and expansion first of a republic and then of republican citizenship with its incidents and privileges. Offered Every Other Year.

HIS 1300 Europe and the World: 1500-1945 Cr. 4
Satisfies General Education Requirement: Historical Studies, Social Inquiry
The rise of the modern West and the response of the non-West from the age of exploration to the end of World War II. The foundations of the contemporary world. Offered Every Term.

HIS 1400 The World Since 1945 Cr. 4
Satisfies General Education Requirement: Global Learning Inquiry, Historical Studies, Social Inquiry
Selected topics in world history since 1945, including: impact of World War II on Europe and European empires; bipolar division of the world between the United States and the Soviet Union; the international order and relations between the industrial nations (First World) and the developing nations (Third World). Offered Every Term.

HIS 1600 African Civilizations to 1800 Cr. 3-4
Satisfies General Education Requirement: Historical Studies, Social Inquiry
Africa from ancient Egypt to the Atlantic slave trade. Emphasis on state-building; regional and international commercial networks and their role in economic, political, and socio-cultural change. Offered Fall, Winter.

HIS 1610 African Civilizations Since 1800 Cr. 3-4
Satisfies General Education Requirement: Global Learning Inquiry, Historical Studies, Social Inquiry
The origins of contemporary Africa, nineteenth century state-building, spread of Islamic religion, establishment of European empires, independence struggles, and problems of independence. Offered Fall, Winter.

HIS 1700 East Asia to the 1700s Cr. 3
Satisfies General Education Requirement: Social Inquiry
From antiquity to the 1700s; emphasis on political, economic, social, and cultural developments in China, Japan, and Korea, and the nature and impact of their interactions. Offered Intermittently.
Equivalent: ASN 1700

HIS 1710 History of Modern East Asia Cr. 3
Satisfies General Education Requirement: Global Learning Inquiry, Historical Studies, Social Inquiry
From beginning of nineteenth century to the present; emphasis on political, social and economic developments in China, Japan and Korea. Offered Yearly.
Equivalent: ASN 1710

HIS 1800 The Age of Islamic Empires: 600-1600 Cr. 3
Satisfies General Education Requirement: Cultural Inquiry, Global Learning Inquiry, Historical Studies
Historical evolution of the Islamic world from birth of Islam to height of Ottoman Empire. Islamic history and civilization in a world-historical context; developments indigenous to specific regions, such as Islamic Spain. Offered Every Term.
Equivalent: NE 2030

HIS 1810 The Modern Middle East Cr. 3
Satisfies General Education Requirement: Cultural Inquiry, Global Learning Inquiry, Historical Studies
Survey of Middle East history in modern era, focusing on the nineteenth and twentieth centuries. Ottoman history from 1600: impact of European imperialism and nationalist movements, resulting in development of modern state systems, regional/national conflicts, and Islamic response to modernization. Offered Every Term.
Equivalent: NE 2040

HIS 1900 History of Colonial Latin America Cr. 3
Satisfies General Education Requirement: Historical Studies, Social Inquiry
The Spanish and Portuguese conquests in the Americas; the multi-racial and class social structures they established as colonies, and the movements for independence, 1492-1822. Offered Yearly.
Restriction(s): Enrollment is limited to Undergraduate level students.
Equivalent: LAS 1900

HIS 1910 Latin America from Independence to the Present Cr. 3
Satisfies General Education Requirement: Diversity Equity Incl Inquiry, Global Learning Inquiry, Historical Studies, Social Inquiry
Latin America from early nineteenth century to the 1980s. Major themes include: 1) colonial pasts and political independence; 2) state formation, and the construction of identities at local and national levels; 3) elite and popular relations, including cases of rebellion, revolution, and state repression; 4) forms of capitalist development and transformations in class relations, ideologies of economic development, and linkages to the United States. Offered Yearly.
Equivalent: LAS 1910

HIS 1995 Nature and Societal Transitions Cr. 3
Satisfies General Education Requirement: Historical Studies, Social Inquiry
A survey of the historical evolution of human societies and the accompanying technological transformations of our relationship with the natural world. Examines the most significant transformations in our way of life as a species: our evolutionary development as hunter-gatherers, the invention of agriculture, the rise of civilizations, and the industrial revolution. Offered Yearly.

HIS 2000 Introduction to Urban Studies Cr. 4
Satisfies General Education Requirement: Social Inquiry, Social Sciences
Urban phenomena both past and present, including the quality and nature of urban life; major concerns of urban areas; perspectives and techniques of various urban-related disciplines. Offered Every Term.
Equivalent: GPH 2000, PS 2000, SOC 2500, US 2000

HIS 2040 American Foundations to 1877 Cr. 3-4
Satisfies General Education Requirement: Civic Literacy, Social Inquiry
A survey of America's experience with colonialism, revolution, and nation building, with special attention paid to freedom and slavery, democracy and citizenship, social and cultural change, American identity, and institutional responses to political, social, and economic issues. Offered Every Term.

HIS 2050 Modern America: Since 1877 Cr. 3-4
Satisfies General Education Requirement: Civic Literacy, Social Inquiry
A survey of America's modern experience, with a focus on industrialization, urbanization, social change, cultural development, and political life during the emergence and evolution of the United States as a world power. Offered Every Term.

HIS 2240 History of Michigan Cr. 3-4
Social and economic development of the state, from French explorations to the present. Offered Every Term.

HIS 2350 Black Detroit Cr. 3
Satisfies General Education Requirement: Diversity Equity Incl Inquiry
Explores the historical, cultural and structural aspects of the Black urban experience in Detroit from the late 19th Century to the present, including the role that racism, urbanization and suburbanization have played in shaping racial, spatial and economic inequality in the Detroit Metropolitan area. Utilizes an interdisciplinary approach: to interrogate the social and cultural history of Black Detroit, to examine the various forms of Black social movement activism used by Black Detroiters in the 20th Century, and to analyze ways the shifting economic and political currents shaped, and reshaped racism, class, space, and resistance in the Detroit metropolitan area. Offered Fall, Winter.
Equivalent: AFS 2350, US 2350

HIS 2430 History of Latino/as in the United States Cr. 3
Historical development of people of Hispanic descent in the United States from the early nineteenth century to the present. Cultural conflict, and interaction of political, social, and economic forces. Offered Yearly.
Equivalent: LAS 2430

HIS 2435 Introduction to Digital Humanities Cr. 3
Digital humanities scholarship has exploded over the last ten years. Early DH scholarship represented a niche in humanities fields like English and History, dominated by unique individuals who had both technical programming skills and experience in humanities research. Since its early days, the field of digital humanities has expanded significantly. New tools and platforms make DH research more accessible. Today, DH scholars work in a highly collaborative, interdisciplinary environment that place programmers and developers, information science specialists, and humanities scholars in active conversation. In this course, students will be introduced to these different elements – tools, methods, theories, and critical analysis – of the digital humanities in order to learn new ways to interpret artistic or cultural objects or ideas, social relationships, and historical processes. Offered Fall.
Equivalent: ENG 2435

HIS 2440 History of Mexico Cr. 3
Satisfies General Education Requirement: Foreign Culture, Global Learning Inquiry
Historical development of Mexico and the Mexican people from the Spanish conquest to the present. Interaction of political, social, economic and cultural influences. Offered Yearly.
Equivalent: LAS 2410

HIS 2500 Introduction to Peace and Conflict Studies Cr. 3
Introduction to the peace and conflict studies co-major. Survey, ranging from biology and conflict among animals to disputes involving the individual, the family, the neighborhood and region, the nation and global or international community. Definitions and approaches to peace. (Some sections linked to Peace and Justice Learning Community.) Offered Yearly.
Equivalent: PCS 2000, PS 2820

HIS 2510 Science, Technology, and War Cr. 4
Modern weapons, nuclear and otherwise are becoming increasingly available and dangerous; people with grievances seem eager to use them. Science and technology, as well as constraints of bureaucracy and society underpin weapons development and use, as technologies affect prospects and results of war and peace. History of humanity and its tools of war. Offered Yearly.
Equivalent: PCS 2020, PHY 2020, PS 2440

HIS 2520 Topics in Peace and Conflict Studies Cr. 1-4
Special topics relating to peace and conflict studies. Offered Every Term.
Equivalent: PCS 2010, PS 2830
Repeatable for 12 Credits

HIS 2530 The Study of Non-Violence Cr. 3
Satisfies General Education Requirement: Diversity Equity Incl Inquiry
Intellectual and social roots of non-violence and the practice of non-violence in different people's life styles. Historical and political forces and movements related to non-violence. (Some sections linked to Peace and Justice Learning Community.) Offered Every Term.
Equivalent: PCS 2050, PS 2550, SOC 2050

HIS 2605 History of Women, Gender and Sexuality in the Modern World Cr. 3
Satisfies General Education Requirement: Diversity Equity Incl Inquiry, Global Learning Inquiry, Historical Studies
Examination of change over time, using different historical approaches to try to account for change as specifically applicable from a comparative perspective to the experiences of women and constructions of gender and sexual identity. Offered Every Term.
Restriction(s): Enrollment is limited to Undergraduate level students.
Equivalent: GSW 2600

HIS 2700 Introduction to Canadian Studies Cr. 3
Satisfies General Education Requirement: Foreign Culture, Global Learning Inquiry
Survey of Canada in its cultural, literary, historical, geographical and political aspects; key concepts and social patterns that define the Canadian experience. Offered Yearly.
Equivalent: ENG 2670, GPH 2700, PS 2700

HIS 2800 Introduction to Global Issues and Institutions Cr. 3
Satisfies General Education Requirement: Global Learning Inquiry, Social Inquiry, Social Sciences
Provides a broad overview of some of the big and controversial questions facing our increasingly globalized world today and introduces some of the tools we have to confront these issues. Topics include the conflict and security threats, protection of human rights, global warming, and resource management. Offered Fall, Winter.
Equivalent: GLS 2800

HIS 3000 The Historian's Craft Cr. 3
Provides an introduction to the discipline of history and the methodological skills that historians need to explore their areas of interest. Offered Fall, Winter.

HIS 3010 Jewish History from the Bible to 1492 Cr. 4
Survey the history of the Jews from biblical antiquity until the Expulsion from Spain. Special attention will be paid to the world of the Hebrew Bible, the Jewish encounter with Hellenistic Civilization, the creation and triumph of Rabbinic Judaism, and Jewish life under Christian and Muslim Rule. Offered Intermittently.
Restriction(s): Enrollment is limited to Undergraduate level students.
Equivalent: NE 3010

HIS 3011 Jewish History since 1492 Cr. 3
Major developments in Jewish History since the expulsion of the Jews from Spain in 1492. Specific topics include the impact of the Spanish expulsion, the Jews of the Ottoman Empire, Jews and the Italian Renaissance, Martin Luther and the Jews, the golden age of Polish Jewry, 1648, Shabbetai Tzvi, Hassidic Judaism, the Court Jews and Age of Absolutism, the impact of the Enlightenment, the French Revolution and the Age of Emancipation, the twin birth of Reform and Orthodox Judaism, Anti-Semitism and the Dreyfus Affair, Zionism and other forms of Jewish Nationalism, Hitler and the Final Solution, the creation of the State of Israel, and Jews in Post-World War II America, Israel, Europe, and the Soviet Union. Offered Intermittently.
Restriction(s): Enrollment is limited to Undergraduate level students.
Equivalent: NE 3011

HIS 3015 History of Judaism and Jewish Thought Cr. 4
Development of Judaism and Jewish thought from early beginnings in the Hebrew Bible to contemporary American Jewish religious developments. Offered Intermittently.
Equivalent: NE 3015

HIS 3140 African American History I: 1400-1865 Cr. 3-4
Satisfies General Education Requirement: Diversity Equity Incl Inquiry
African origins of African Americans; transition from freedom to slavery; status of African Americans under slavery. Offered Yearly.
Equivalent: AFS 3140

HIS 3150 African American History II: 1865-1968 Cr. 3-4
Satisfies General Education Requirement: Diversity Equity Incl Inquiry
African American history from Reconstruction through the Civil Rights Movement. Offered Yearly.
Equivalent: AFS 3150

HIS 3155 African American History III: 1968 - Present Cr. 3-4
Satisfies General Education Requirement: Diversity Equity Incl Inquiry
History of African Americans' struggle against persistent and stubborn racism, efforts to achieve full citizenship, and legal and economic justice after 1968. Offered Intermittently.
Restriction(s): Enrollment is limited to Undergraduate level students.
Equivalent: AFS 3155

HIS 3160 Black Urban History Cr. 4
Satisfies General Education Requirement: Diversity Equity Incl Inquiry
Historical experience of African Americans in urban areas; impact of their communities on urban development from 1860 to contemporary times. Offered Fall, Winter.
Equivalent: AFS 3160

HIS 3170 Ethnicity and Race in American Life Cr. 3-4
Satisfies General Education Requirement: Diversity Equity Incl Inquiry
Exploration of complicated relationship between ethnic and racial diversity and the making of America. Using historical, literary, and cultural readings and sources to examine key themes: Who was the ""Other""? What is an ""American""? Offered Yearly.
Equivalent: AFS 3170

HIS 3180 Black Social Movements Cr. 4
Satisfies General Education Requirement: Diversity Equity Incl Inquiry
Survey of mass or popular Black movements with emphasis on their political and cultural impact, historical continuity and organization. Offered Yearly.
Equivalent: AFS 3180

HIS 3230 The Civil Rights Movement Cr. 3
Historically-driven survey of the Civil Rights Movement; focus on African Americans' efforts to enjoy the full benefits of American citizenship. Offered Yearly.
Restriction(s): Enrollment is limited to Undergraduate level students.
Equivalent: AFS 3230

HIS 3240 Detroit Politics: Continuity and Change in City and Suburbs Cr. 4
Satisfies General Education Requirement: Diversity Equity Incl Inquiry
Detroit area political systems and processes; historical, economic, and social influences on local politics. Traditions, changes, and future challenges in Detroit and metropolitan area. Offered Every Other Year.
Equivalent: PS 3250

HIS 3250 The Family in History Cr. 3-4
Satisfies General Education Requirement: Social Inquiry
Comparative survey emphasizing the transformation from traditional patterns of family life to family and kin in modern industrial society; students research their own family histories. Offered Every Other Year.

HIS 3320 Twentieth Century Middle East Cr. 3
The contemporary Middle East; emphasis on social and economic development. Investigation of issues that identify the region, such as oil, gender issues, fundamentalism, and regional conflicts. Offered Every Term.
Equivalent: NE 3040

HIS 3330 Civilizations of the Nile Valley: Egypt and Nubia Cr. 4
From Neolithic era to the seventh century of our era. Offered Every Other Year.

HIS 3345 Christianity in Africa Cr. 4
This course explores the history of missionization on the African continent; its role in furthering the colonial project and the changes it brought for African societies; and the role of Africans in shaping Christian practice. Offered Fall.

HIS 3360 Black Workers in American History Cr. 4
Satisfies General Education Requirement: Social Inquiry
Survey course. Slave and free workers during antebellum period; skill trades, sharecropping, menial labor, and coal mining during Reconstruction; labor struggles and job discrimination in the twentieth century. Offered Fall, Winter.
Equivalent: AFS 3360

HIS 3440 American Medicine in the Twentieth Century Cr. 3
Major historical benchmarks in the making of the medical system in the U.S., including developments in medicine and medical knowledge, as well as social and political factors that influenced their reception and implementation. Offered Winter.
Restriction(s): Enrollment is limited to Undergraduate level students.
Equivalent: SOC 3440

HIS 3445 History of the Future Cr. 3
Explores how writers, politicians, historians, and ordinary people think about time—how we think about history and how we imagine the past and future in time travel stories, science fiction, scientific research, and public predictions about the future. It uses the history of technologies—and technological changes—as a means of anchoring our discussion of how writings (and visual media such as film and television) view past and future work, war and conflict, environmental change, reproduction, and human community. Offered Every Other Year.

HIS 3490 History of Russia and Eurasia to 1917 Cr. 4
Interaction of cultures, politics and societies of Russia and Eurasia to the Russian Revolution of 1917. Offered Yearly.
Restriction(s): Enrollment is limited to Undergraduate level students.

HIS 3585 Science, Technology, and Society Cr. 3
Introduction to the field of Science and Technology Studies; how conflicts about science and technology are generated and resolved; how broader societal institutions help shape, and are shaped by, science and technology. Offered Winter.
Restriction(s): Enrollment is limited to Undergraduate level students.

HIS 3650 History of Detroit Cr. 3
Satisfies General Education Requirement: Diversity Equity Incl Inquiry
History of Detroit from European contact to the present, with emphasis on the late-19th and 20th centuries. Offered Fall, Winter.
Equivalent: US 3650

HIS 3991 Directed Study: Salford - WSU Exchange Cr. 3-9
Directed study at University of Salford, England. Offered Fall, Winter.
Repeatable for 9 Credits

HIS 3995 Special Topics in History Cr. 1-4
Specialized and topical studies in historical events, personalities and themes. Topics to be announced in Schedule of Classes . Offered Every Term.
Repeatable for 8 Credits

HIS 3996 Topics in African History Cr. 1-4
Topics to be announced in Schedule of Classes . Offered Intermittently.
Repeatable for 8 Credits

HIS 3998 Topics in American History Cr. 1-4
Topics to be announced in Schedule of Classes . Offered Intermittently.
Repeatable for 8 Credits

HIS 4990 Directed Study Cr. 1-6
Offered Every Term.
Repeatable for 6 Credits

HIS 4993 History Communication Cr. 3
This course examines the challenges associated with communicating about the past in today's media-saturated environment. Case studies include analysis of communication surrounding controversial historical issues such as slavery and race, to the examination of successful history communicators operating in various media. An important sub-theme focuses on best practices and ethics when it comes to communicating history to non-experts through emerging media. Students also learn how to "economize" the history communicator skillset for the workplace. Offered Fall.
Equivalent: ANT 4993

HIS 4994 Digital History Seminar Cr. 3
Explores both the opportunities and the challenges of digital history. Throughout the semester, students work in groups to construct a digital project for the Reuther Archive in which they will digitize sources and create content based on distinct parts of the Reuther's collection. The end goal is a digital exhibit that will both make these materials more accessible and help communicate their significance for the general public. Offered Every Other Fall.

HIS 4997 Internship in Public History Cr. 3
Professional experience in public history under the supervision of a public history practitioner and a departmental advisor. Offered Every Term.
Restriction(s): Enrollment is limited to students with a major in History or History Honors.

HIS 5010 Colonial North America Cr. 4
European expansion to North America, interaction among European, Native American, and African peoples, and imperial competition over the New World through the Seven Years' War. Offered Intermittently.

HIS 5020 Revolutionary America Cr. 4
Social, political, and cultural background to America's independence movement; development of American national identity, social relations, and early politics through the election of 1800. Offered Intermittently.

HIS 5030 Early American Republic: 1789-1850 Cr. 4
Emphasis on the political culture with special attention to the founding of the American Republic, the emergence of a modern economy, slavery, social reform, and the sectional crisis. Offered Every Other Year.

HIS 5040 Civil War and Reconstruction: 1850-1877 Cr. 3
Emphasis on the coming of the Civil War, the war's impact on American society, and the reconstruction of the United States after the war. Offered Every Other Year.

HIS 5070 Contemporary American History: 1945 to the Present Cr. 4
Social, political, intellectual, economic, diplomatic, and cultural trends in the United States since World War II. Offered Yearly.

HIS 5110 Class, Race, and Politics in America Cr. 3
Historical and analytic investigation into the role of class and race in American politics. Offered Intermittently.
Equivalent: AFS 6100, PS 6050, SOC 7330, UP 7030

HIS 5130 American Foreign Relations Since 1933 Cr. 4
United States involvement in the international system from the twenties to the present. Emphasis on World War II to Vietnam and the role of the United States in the Cold War and the Third World. Offered Every Other Year.

HIS 5160 American Legal Culture to 1857 Cr. 4
The emergence of distinctively Anglo-American legal cultures in the Atlantic basin and then in North America, from early exploration and settlement until the early stages of Civil War. Special attention is paid to law's ongoing relationship to state making, the shifting terrain of citizenship, the emergence of capitalism, and the construction within society of racial, gendered, and class distinctions. Not a prerequisite for HIS 5170. Offered Every Other Year.

HIS 5170 American Legal Culture after 1857 Cr. 4
The post-Civil War development of legal-cultural constructs as Americans industrialized, modernized, globalized, and centralized public life. Special attention will be paid to law's ongoing relationship to state-making, the shifting terrain of citizenship, the emergence of the modern welfare state, economic regulation and de-regulation, and the construction of racial, gendered, and class distinctions. Offered Every Other Year.

HIS 5200 Women, Gender, and Sexuality in US History Cr. 3
the history of women in the United States and the role of gender and sexuality in shaping women/qs and men/qs experience and identity. Offered Every Other Year.

HIS 5210 The Peopling of Modern America, 1790-1914: A History of Immigration Cr. 3-4
Causes and consequences of immigration; immigrants and labor; immigrant culture and institutions; relationship between immigration, industrialization, and urbanization; racism, nativism, and immigration restriction. Offered Every Other Year.

HIS 5220 The Changing Shape of Ethnic America: World War I to the Present Cr. 3-4
Assimilation, cultural pluralism and the ""melting pot""; persistence of ethnic cultures; class and ethnicity; internal migrations; America's recent immigrants; race and ethnic relations in the city; the ""new ethnicity."" Offered Every Other Year.

HIS 5230 History Of South Cr. 3
Equivalent: HIS 7230

HIS 5231 The Conquest in Latin America Cr. 3
Varying perspectives on European conquests in Latin America. Offered Intermittently.
Equivalent: LAS 5231

HIS 5234 Race in Colonial Latin America Cr. 3
Use of race to organize colonial society in Latin America. Offered Intermittently.
Equivalent: LAS 5234

HIS 5235 The Civil Rights Movement Cr. 3
Historically-driven survey of the Civil Rights Movement; focus on African Americans' efforts to enjoy the full benefits of American citizenship. Offered Yearly.
Equivalent: AFS 5230

HIS 5240 Michigan History in Perspective Cr. 3
Social, economic, environmental, and political history of Michigan from prehistory to the present. Offered Winter.
Restriction(s): Enrollment is limited to Graduate or Undergraduate level students.

HIS 5251 History of Feminism Cr. 4
An upper-division/graduate-level course on the main ideological, intellectual, and political sources and developments in the history of feminism in the United States. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate or Undergraduate level students; enrollment limited to students with a class of Unranked Grad, Junior or Senior.

HIS 5261 African American History and Memory Cr. 3
An examination of the ways different groups and institutions remember and forget African American history. Each term the course will have a specific focus that will be advertised in advance. Offered Fall.
Equivalent: AFS 5261
Repeatable for 6 Credits

HIS 5290 American Labor History Cr. 4
Analysis of American workers and unions in the nineteenth and twentieth centuries. Offered Every Other Year.
Equivalent: ECO 5490

HIS 5300 History of American Capitalism Cr. 4
History and development of American capitalism from the colonial period through the 2008 financial crisis. Offered Every Other Year.

HIS 5330 History of Ancient Greece Cr. 3
Ancient Greek culture, emphasizing political events, social and economic institutions, and cultural achievements. Offered Every Other Year.

HIS 5335 History of the Hellenistic Age Cr. 3
The History of Greece and the Eastern Mediterranean world from Alexander the Great to the Roman conquest: 323 B.C. to 30 B.C. Offered Every Other Year.

HIS 5340 History of Ancient Rome Cr. 3
Institutional and cultural development. Offered Every Other Year.
Equivalent: HIS 7340

HIS 5345 Rome and the Barbarians Cr. 3
The relationship between ancient Rome and the pre-state societies that existed beyond its frontiers from about 300 B.C.E to about 500 C.E. Offered Every Other Year.

HIS 5360 The Early Middle Ages: 300-1000 Cr. 3
Interaction of Roman, Christian, and barbarian elements in the emergence of Europe as a cultural entity between the fourth and tenth centuries. Offered Every Other Year.

HIS 5370 The High Middle Ages: 1000-1300 Cr. 3
Economic, social, and cultural developments that transformed Western European civilization during the eleventh, twelfth and thirteenth centuries. Offered Every Other Year.

HIS 5385 History of Christianity to the Reformation Cr. 3
Survey of Christianity from Jesus to the Reformation. Balanced coverage of Christianity in Europe, Asia, and Africa. Offered Yearly.

HIS 5386 The History of Christianity from the Reformation to the Present Cr. 3
Examines the Reformation, the export of Christianity to the New World, Africa, and Asia; and the challenges posed to Christian cultural hegemony in the west by science and modernism. Offered Intermittently.

HIS 5395 Social History of the Roman Empire Cr. 3-4
Social institutions of the Roman empire, including the family, patronage, slavery, economy, and religion. Offered Yearly.

HIS 5400 Early Modern Europe Cr. 4
Development of modern centralized state; social and cultural changes, including the Enlightenment. Offered Every Other Year.

HIS 5407 The Scientific Revolution Cr. 3
Rise of modern science; major changes in study of astronomy, medicine, physics, mathematics, and other sciences from 1500 to 1700. Offered Intermittently.

HIS 5410 The French Revolution and Napoleon Cr. 4
The dramatic changes of the late eighteenth and early nineteenth century that altered the course of French and European development and laid the basis for political modernization. Offered Every Other Year.

HIS 5425 American Environmental History Cr. 3
From the pre-Columbian period to the present day; emphasis on twentieth-century urban history, using Detroit as a model for the changing human/environment relationship over the past three centuries. Offered for undergraduate credit only. Offered Fall.
Restriction(s): Enrollment is limited to Graduate or Undergraduate level students.

HIS 5440 Twentieth Century Europe Cr. 4
Total war and disillusionment, attempts to restore stability and security, totalitarianism as an answer, more war and reconstruction, a divided Europe, and the search for Europe's place in the world. Offered Every Other Year.

HIS 5450 Europe, 1918-1939: Mass Politics and Culture in the Age of Hitler, Stalin, and Mussolini Cr. 4
Social and cultural trends in modern European society; ideological struggles of interwar period. Topics include: impact of World War I; development of communism, fascism, Nazism; Freud and the liberal defense; existentialism; postwar disillusionment. Offered Yearly.

HIS 5460 History of the Holocaust Cr. 4
Holocaust as a tragic conjuncture of general European and Jewish history. Topics include: development of anti-Semitism in Europe and the rise of Nazism; European Jewry in the interwar period; the Third Reich's treatment of the ""Jewish Question"" in the 1930s; Jewish resistance; fate of the survivors; implications of the Holocaust for contemporary society. Offered Yearly.

HIS 5480 Nazi Germany Cr. 3-4
Hitler and Nazi Germany. Topics include: impact of World War I, the Weimar Republic, the growth of the Nazi party, the seizure of power, internal and foreign policies, and the war experience. Offered Every Other Year.
Equivalent: HIS 7480

HIS 5490 His: Russia & Eurasia to 1917 Cr. 4
Offered Yearly.

HIS 5495 History of the Russian Revolution Cr. 3-4
The Russian Revolution, including fall of tsarist Russia, reign of the Provisional Government, and establishment of power by the Communist Party. Offered Yearly.

HIS 5500 The Soviet Union Cr. 4
Bolshevik seizure of power, collectivization of agriculture and forced-draft industrialization, Nazi German invasion, Khrushchev and deStalinization, predominance of the new middle class, nationality problems, and problems of detente. Offered Every Other Year.

HIS 5530 History of World War I and II: A Social and Political History of Two World Wars Cr. 4
Provides an in-depth and truly global look at the history of both wars. Topics will include the political events leading up to the wars and their political aftermath, as well as their short- and long-term effects on societies. Offered Every Other Year.
Equivalent: HIS 7530

HIS 5535 History of Terrorism Cr. 3
Examines terrorism from its beginnings until its most recent manifestations. It starts with a critical examination of the term terrorism itself, but the main focus of this course will not be on discussions about the concept and its various meanings, but rather on high profile instances of what is commonly referred to as terrorism. The course will take a transnational approach and engage in comparative history. Offered Every Other Year.

HIS 5540 World Environmental History since 1900 Cr. 4
This course examines the transformation of the relationship between human society and the natural environment in global context since 1900. Available for undergraduate credit only. Offered Fall.
Equivalent: GLS 5540

HIS 5550 Britain 1485-1714 Cr. 4
Impact of religious, political and social change on British people during sixteenth, seventeenth, and early eighteenth centuries. Offered Every Other Year.

HIS 5555 Britain in the Age of Empire Cr. 4
History of Britain and the rise of the British Empire, 1700-1800, focusing on political, economic, intellectual, and social developments. Special emphasis on shifting notions of what it meant to be ""British"" during the period. Offered Every Other Year.

HIS 5556 History of Modern Britain Cr. 4
Modern British history from 1815 to the present day: political, economic, intellectual, and social developments, in Britain itself and across the Empire. Offered Every Other Year.

HIS 5585 Studies in Science, Technology, and Society Cr. 3
Introduction to the field of Science and Technology Studies; how conflicts about science and technology are generated and resolved; how broader societal institutions help shape, and are shaped by, science and technology. Offered for graduate credit only. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students.

HIS 5660 France Since 1815 Cr. 4
Struggle between old and new political forces, impact of industrialization, search for freedom with order, effect of total war, problems of decolonization and European integration, and cultural transformations. Offered Every Other Year.

HIS 5665 Global Cities Cr. 3
Social, political, economic, and cultural history of cities around the world, with an emphasis on the 19th and 20th centuries. Offered Intermittently.

HIS 5670 Modern American Cities Cr. 3
History of U.S. cities since World War II. Topics include suburbanization, deindustrialization, gentrification, and globalization. Offered Intermittently.
Equivalent: UP 5670

HIS 5715 Everyday Africa Cr. 4
Moving beyond the conventional narrative; an alternative history based on the everyday lives of individuals and communities, challenging the way we understand Africa's past and present. Offered Fall.

HIS 5725 African Cities Cr. 4
An exploration of the emergence of cities in sub-Saharan Africa and major themes in the history of urban Africa: work, leisure, popular culture, politics, conflict, gender, generation, ethnicity, and race. Offered Winter.

HIS 5825 Readings in the History of Modern China Cr. 4
From early 1600s to the present; political, economic, and social changes. Offered Every Other Year.
Equivalent: ASN 5825

HIS 5855 Pre-Modern Japan Cr. 4
Japanese history from its mythical origins to early nineteenth century; political, economic, social, cultural developments. Offered Every Other Year.
Equivalent: ASN 5855

HIS 5865 Modern Japan Cr. 4
Japanese history from the early nineteenth century to the present; emphasis on political, economic, and social developments. Offered Yearly.
Equivalent: ASN 5865

HIS 5875 Gender in Modern East Asia Cr. 4
History of gender in China, Japan, and Korea, with topics to include Confucianism, the state's role in gender construction, nationalism, imperialism, marriage, family, labor, sexuality, and feminism. Offered Every Other Year.
Equivalent: ASN 5875, GSW 5875

HIS 5960 Globalization, Social History and Gender in the Arabian Gulf Cr. 3
Social history of the Arabian Gulf (especially Bahrain, Qatar, and the UAE) in the age of globalization. Contemporary history with special emphasis on gender relations as an index of current social developments in the region. Offered Every Other Year.
Equivalent: NE 5000

HIS 5991 Directed Study: Salford - WSU Exchange Cr. 3-9
Directed study at University of Salford, England. Offered for undergraduate credit only. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Undergraduate level students.

HIS 5993 Writing Intensive Course in History Cr. 0
Satisfies General Education Requirement: Writing Intensive Competency
Must be selected in conjunction with HIS 5996: Junior/Senior Research Seminar. For HIS 5996, students write a research paper of approximately twenty typed pages, including footnotes and a bibliography, and using primary sources. A C or higher on that paper is required to earn a Satisfactory for HIS 5993 and to fulfill the University General Education Writing Intensive requirement for the History major and History Honors major. Offered Fall, Winter.
Prerequisites: AFS 2390 with a minimum grade of C or ENG 2390 with a minimum grade of C or ENG 3010 with a minimum grade of C or ENG 3020 with a minimum grade of C or ENG 3050 with a minimum grade of C
Restriction(s): Enrollment limited to students with a class of Junior or Senior; enrollment is limited to students with a major in History or History Honors.

HIS 5995 Honors Seminar Cr. 3
Offered Every Term.
Restriction(s): Enrollment is limited to students with a major in History Honors; enrollment limited to students in a Bachelor of Arts degree.

HIS 5996 Junior or Senior Research Seminar Cr. 3
Examines what historians have written about a particular topic, theme, or period, along with what has shaped their interpretations. Students will also conduct independent research on a self-chosen aspect of that topic, theme, or period using primary sources and construct a paper based on that research. Offered for undergraduate credit only. Offered Intermittently.
Prerequisites: HIS 3000 with a minimum grade of C and HIS 3001-6999 with a minimum grade of C
Restriction(s): Enrollment limited to students with a class of Junior or Senior.

HIS 6000 Studies in Comparative History Cr. 2-4
Topics to be announced in Schedule of Classes. Offered Every Other Year.

HIS 6010 Studies in American History Cr. 2-4
Topics to be announced in Schedule of Classes. Offered Yearly.
Repeatable for 9 Credits

HIS 6170 Studies in Ethnicity and Race in American Life Cr. 3-4
Exploration of complicated relationship between ethnic and racial diversity and the making of America. Using historical, literary, and cultural readings and sources to examine key themes: Who was the ""Other""? What is an ""American""? Offered Every Other Year.
Equivalent: AFS 6170

HIS 6440 Studies in American Medicine in the Twentieth Century Cr. 3
Major historical benchmarks in the making of the medical system in the U.S., including developments in medicine and medical knowledge, as well as social and political factors that influenced their reception and implementation. Offered for graduate credit only. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students.

HIS 6780 Introduction to Records and Information Management Cr. 3
Management of information, including records creation, records inventory and appraisal, retention/disposition scheduling, filing systems, maintenance of inactive records, micrographics, vital records protection, and electronic impact on records management. Offered for graduate credit only. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: INF 6780

HIS 6993 History Communication Cr. 3
This course examines the challenges associated with communicating about the past in today's media-saturated environment. Case studies include analysis of communication surrounding controversial historical issues such as slavery and race, to the examination of successful history communicators operating in various media. An important sub-theme focuses on best practices and ethics when it comes to communicating history to non-experts through emerging media. Students also learn how to "economize" the history communicator skillset for the workplace. Offered Every Other Fall.
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: ANT 6993

HIS 7010 Readings in Colonial North America Cr. 4
Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students.

HIS 7020 Readings in Revolutionary America Cr. 4
Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students.

HIS 7030 Readings in the Early American Republic: 1789-1850 Cr. 4
Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.

HIS 7040 Readings in the Civil War and Reconstruction: 1850-1877 Cr. 3
Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.

HIS 7070 Readings in Contemporary American History: 1945 to the Present Cr. 4
Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.

HIS 7130 Readings in American Foreign Relations Since 1933 Cr. 4
Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.

HIS 7160 Readings in American Legal Culture to 1857 Cr. 4
The emergence of distinctively Anglo-American legal cultures in the Atlantic basin and then in North America, from early exploration and settlement until the early stages of Civil War. Special attention is paid to law's ongoing relationship to state making, the shifting terrain of citizenship, the emergence of capitalism, and the construction within society of racial, gendered, and class distinctions. Not a pre-requisite for HIS 7170. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate or Law level students.

HIS 7170 Readings in American Legal Culture after 1857 Cr. 4
The post-Civil War development of legal-cultural constructs as Americans industrialized, modernized, globalized, and centralized public life. Special attention will be paid to law's ongoing relationship to state-making, the shifting terrain of citizenship, the emergence of the modern welfare state, economic regulation and de-regulation, and the construction of racial, gendered, and class distinctions. Offered Winter.
Restriction(s): Enrollment is limited to Graduate or Law level students.

HIS 7200 Readings in Women, Gender, and Sexuality in US History Cr. 3
An advanced graduate course that explores the history of women in the United States and the role of gender and sexuality in shaping women's and men's experience and identity and the approaches to its study. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.

HIS 7210 Readings in the Peopling of Modern America, 1790-1914: A History of Immigration Cr. 3-4
Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.

HIS 7220 Readings in the Changing Shape of Ethnic America: World War I to the Present Cr. 3-4
Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.

HIS 7230 Rdg: His Of South Cr. 3
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: HIS 5230

HIS 7231 The Conquest in Latin America Cr. 3
Varying perspectives on European conquests in Latin America. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students.

HIS 7234 Readings in Race in Colonial Latin America Cr. 3
Use of race to organize colonial society in Latin America. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students.

HIS 7240 English Legal History Cr. 3
Survey course: 1066 CE to present. Areas of private law: real property, contracts, torts, and family law; criminal law; development of the court system; labor law and rise of modern administrative state. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.

HIS 7251 History of Feminism Cr. 4
Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.

HIS 7261 African American History and Memory Cr. 3
An examination of the ways different groups and institutions remember and forget African American history. Each term the course will have a specific focus that will be advertised in advance. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 6 Credits

HIS 7290 Readings in American Labor History Cr. 4
Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.

HIS 7300 Readings in the History of American Capitalism Cr. 4
Advanced graduate course in the history and development of American capitalism from the colonial period through the 2008 financial crisis. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.

HIS 7330 Readings in the History of Ancient Greece Cr. 3
Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.

HIS 7335 Readings in the History of the Hellenistic Age Cr. 3
The History of Greece and the Eastern Mediterranean world from Alexander the Great to the Roman conquest: 323 B.C. to 30 B.C. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.

HIS 7340 Readings in the History of Ancient Rome Cr. 3
Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.

HIS 7345 Readings in Rome and the Barbarian Cr. 3
The relationship between ancient Rome and the pre-state societies that existed beyond its frontiers from about 300 B.C.E to about 500 C.E. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.

HIS 7360 Readings in the Early Middle Ages: 300-1000 Cr. 3
Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.

HIS 7370 Readings in the High Middle Ages: 1000-1300 Cr. 3
Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.

HIS 7385 Readings in the History of Christianity to the Reformation Cr. 3
Survey of Christianity from Jesus to the Reformation. Balanced coverage of Christianity in Europe, Asia, and Africa. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.

HIS 7386 Readings in the History of Christianity from the Reformation to the Present Cr. 3
Students will read primary and secondary literature relating to the Reformation, the export of Christianity to the New World, Africa, and Asia; and the challenges posed to Christian cultural hegemony in the west by science and modernism. Offered Intermittently.

HIS 7395 Readings in the Social History of the Roman Empire Cr. 3-4
Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.

HIS 7400 Readings in Early Modern Europe Cr. 4
Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.

HIS 7407 Readings in The Scientific Revolution Cr. 3
Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students.

HIS 7410 Readings in the French Revolution and Napoleon Cr. 4
Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.

HIS 7425 Studies in American Environmental History Cr. 3
From the pre-Columbian period to the present day; emphasis on twentieth century urban history, using Detroit as a model for the changing human/environment relationship over the past three centuries. Offered for graduate credit only. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.

HIS 7440 Readings in Twentieth Century Europe Cr. 4
Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.

HIS 7450 Readings on Europe, 1918-1939: Mass Politics and Culture in the Age of Hitler, Stalin, and Mussolini Cr. 4
Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.

HIS 7465 Readings in the History of the Holocaust Cr. 4
Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.

HIS 7480 Readings in Nazi Germany Cr. 3-4
Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.

HIS 7495 Readings in the History of the Russian Revolution Cr. 3-4
The Russian Revolution, including fall of tsarist Russia, reign of the Provisional Government, and establishment of power by the Communist Party. Offered for graduate credit only. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.

HIS 7500 Readings in the Soviet Union Cr. 4
Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.

HIS 7530 Readings in the History of World War I and II: A Social and Political History of Two World Wars Cr. 4
Provides an in-depth and truly global look at the history of both wars. Topics will include the political events leading up to the wars and their political aftermath, as well as their short- and long-term effects on societies. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.

HIS 7535 Readings in the History of Terrorism Cr. 3
Examines terrorism from its beginnings until its most recent manifestations. It starts with a critical examination of the term terrorism itself, but the main focus of this course will not be on discussions about the concept and its various meanings, but rather on high profile instances of what is commonly referred to as terrorism. The course will take a transnational approach and engage in comparative history. Offered Every Other Year.

HIS 7540 Readings in World Environmental History Cr. 4
This course examines the transformation of the relationship between human society and the natural environment in global context since 1900. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.

HIS 7550 Readings in Britain: 1485-1714 Cr. 4
Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.

HIS 7555 Readings in Britain in the Age of Empire Cr. 4
Readings in the history of Britain and the rise of the British Empire, 1700-1880, focusing on political, economic, intellectual, and social developments. Special emphasis on shifting notions of what it meant to be ""British"" during the period. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.

HIS 7556 Readings in the History of Modern Britain Cr. 4
Readings in modern British history from 1815 to the present day: political, economic, intellectual, and social developments, in Britain itself and across the empire. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.

HIS 7660 Readings in France Since 1815 Cr. 4
Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.

HIS 7665 Global Cities Cr. 3
Social, political, economic, and cultural history of cities around the world, with an emphasis on the 19th and 20th centuries. Offered for graduate credit only. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.

HIS 7670 Modern American Cities Cr. 3
History of U.S. cities since World War II. Topics include suburbanization, deindustrialization, gentrification, and globalization. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students.

HIS 7685 Practicum: Archives Cr. 3
Planned on-site experience in an archives under the direction of a professional archivist/librarian and under the supervision of a member of the faculty. Theory and competencies relevant to the environment. Recommended for students without experience in archives. Offered Every Term.
Prerequisite: INF 6010 with a minimum grade of C and INF 6080 with a minimum grade of C and INF 6120 with a minimum grade of C and INF 6210 with a minimum grade of C and INF 7040 with a minimum grade of C and INF 7710 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: INF 7970

HIS 7715 Readings in Everyday Africa: Life Between the Historical Lines Cr. 4
Moving beyond the conventional narrative; an alternative history based on the everyday lives of individuals and communities, challenging the way we understand Africa's past and present. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.

HIS 7725 Readings in African Cities Cr. 4
An exploration of the emergence of cities in sub-Saharan Africa and major themes in the history of urban Africa: work, leisure, popular culture, politics, conflict, gender, generation, ethnicity, and race. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students.

HIS 7740 Readings in the History of South Africa Cr. 4
Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.

HIS 7745 Archives and Libraries in the Digital World Cr. 3
Overview of electronic tools and the role of digital process in libraries and archives. Offered Spring/Summer.
Prerequisite: INF 6010 with a minimum grade of C or INF 7710 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: INF 7740

HIS 7810 Introduction to Archival and Library Conservation Cr. 3
Basic course in the fundamentals of archival and library conservation problems and methods essential for effective preservation management of paper and associated materials. Offered Spring/Summer.
Prerequisite: INF 6010 with a minimum grade of C or INF 7710 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: INF 7750

HIS 7820 Description and Access for Archives Cr. 3
Investigation of description of archival materials emphasizing the electronic technologies and standard practices. Offered Yearly.
Prerequisites: May be taken concurrently: INF 7710 with a minimum grade of C or HIS 7840 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: INF 7780

HIS 7830 Methods and Research in History Cr. 3
Methods and tools of research and documentation. Use of aids and guides. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.

HIS 7832 History Practicum Cr. 3
Enables career exploration for graduate students, facilitates professional development, and introduces students to the basics of teaching history. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students.

HIS 7835 Public History: Theory and Method Cr. 3
Theory and practice of public history, including research and interpretation for popular audiences. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.

HIS 7840 Archival Administration Cr. 3
Basic training in archival methods. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: INF 7710

HIS 7855 Memory and History Cr. 3
Introduction to the study of collective and public memory in history; interdisciplinary theories and approaches; case studies. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.

HIS 7860 Oral History: A Methodology for Research Cr. 3
Techniques of gathering data from individuals for use in research, classroom teaching, in historical, cultural or other contexts. Offered Spring/Summer.
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: INF 7770

HIS 7880 Administration of Historical Agencies Cr. 3
The operation of public and private historical agencies, archives and museums. Determination of agency priorities, problems of staffing and finance, governmental regulations, community relations, and professional ethics. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: INF 7885

HIS 7890 Administration and Preservation of Visual Collections Cr. 3
Basic course in the fundamentals of administering a visual collection: evaluation, organization, and control of visual collections in archives, librarians, historical agencies, and museums. Offered Winter.
Prerequisite: HIS 7840 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: INF 7730

HIS 7960 Readings in Globalization, Social History and Gender in the Arabian Gulf Cr. 3
Social history of the Arabian Gulf (especially Bahrain, Qatar, and the UAE) in the age of globalization. Contemporary history with special emphasis on gender relations as an index of current social developments in the region. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.

HIS 7990 Directed Study Cr. 1-4
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 12 Credits

HIS 7994 Digital History Seminar Cr. 3
Explores both the opportunities and the challenges of digital history. Throughout the semester, students work in groups to construct a digital project for the Reuther Archive in which they will digitize sources and create content based on distinct parts of the Reuther's collection. The end goal is a digital exhibit that will both make these materials more accessible and help communicate their significance for the general public. Offered Every Other Fall.
Restriction(s): Enrollment is limited to Graduate level students.

HIS 7998 Internship in Public History Cr. 1-3
Professional experience in public history under the supervision of a public history practitioner and departmental advisor. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 6 Credits

HIS 7999 Master's Essay Direction Cr. 1-3
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students with a class of Candidate Masters.

HIS 8005 Seminar in American Historiography Cr. 3
Past and present practices of American historians: their methods and arguments, their choice of chronology, approach and subject. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.

HIS 8010 Seminar in Early American History Cr. 3
From first contact between Europeans and Native Americans through the American Revolution. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 12 Credits

HIS 8030 Seminar in Modern American History Cr. 3
Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 12 Credits

HIS 8050 Seminar in the Constitutional and Legal History of the United States Cr. 3
Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 12 Credits

HIS 8060 Seminar in North American Labor History Cr. 3
Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 12 Credits

HIS 8150 Seminar in the History of Gender, Women and Sexuality Cr. 3
Research seminar in the History of Gender, Women, and Sexuality. Topics vary by Term. Offered Yearly.
Prerequisites: HIS 7830 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: GSW 8150
Repeatable for 6 Credits

HIS 8180 Seminar in Immigration History Cr. 3
Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 12 Credits

HIS 8235 Seminar in Early Modern European History Cr. 3
Historiographical, methodological and epistemological issues in doing research in early modern European history. Readings, discussions, focused research. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 12 Credits

HIS 8240 Seminar in Modern European History Cr. 3
Offered Every Other Year.
Prerequisite: HIS 7830 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 12 Credits

HIS 8310 Seminar in World History Cr. 3
Concepts, methodologies and theories of world history; readings, discussions, and written critiques of various schools in the field. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 12 Credits

HIS 8999 Master's Thesis Research and Direction Cr. 1-8
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students with a class of Candidate Masters.
Repeatable for 8 Credits

HIS 9900 Teaching History at the College Level Cr. 1
Students meet with graduate director to consider teaching philosophies and strategies; preparation and delivery of a lecture. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students with a class of Doctoral Candidate.

HIS 9990 Pre-Doctoral Candidacy Research Cr. 1-8
Research in preparation for doctoral dissertation. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 12 Credits

HIS 9991 Doctoral Candidate Status I: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.

HIS 9992 Doctoral Candidate Status II: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: HIS 9991 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

HIS 9993 Doctoral Candidate Status III: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: HIS 9992 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

HIS 9994 Doctoral Candidate Status IV: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: HIS 9993 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

HIS 9995 Candidate Maintenance Status: Doctoral Dissertation Research and Direction Cr. 0
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $370.26
Repeatable for 0 Credits

HON - HONORS

HON 1000 The City: Changing Detroit Cr. 4
Satisfies General Education Requirement: Civic Literacy, Diversity Equity Incl Inquiry, Social Sciences
Honors 1000 is the first half of the Honors Foundation Sequence. The course explores the history and development of the city of Detroit, including the challenges of de-industrialization and segregation, and guides students through the steps of civic engagement including how to identify and specify social problems, formulate workable solutions and advocate effectively for their implementation. Offered Fall.

HON 1110 Passport to Detroit Cr. 1
Satisfies General Education Requirement: Wayne Experience
Passport to Detroit is a participatory-learning course designed to prepare students for life in college and life in Detroit designed to use the personal exploration of Detroit's geography and history as a frame through which incoming students develop (or improve) essential college-level skills. Offered Fall.
Restriction(s): Enrollment limited to students with a class of Freshman.

HON 3000 Field Learning Cr. 0
Required for all students graduating with University Honors. Students are involved in community-based education and promotion of civic engagement. Offered Every Term.
Restriction(s): Enrollment is limited to Undergraduate level students.

HON 4200 Seminar in Philosophy and Letters Cr. 3
Satisfies General Education Requirement: Cultural Inquiry, Philosophy Letters
Analysis of meanings given to human experience through study of philosophy or letters. Offered Yearly.
Repeatable for 9 Credits

HON 4220 Seminar in Life Science Cr. 3
Satisfies General Education Requirement: Life Sciences, Natural Scientific Inquiry
Analysis of aspects, methods, and important issues in various areas of the life sciences. Offered Yearly.
Repeatable for 9 Credits

HON 4230 Seminar in Physical Science Cr. 3
Satisfies General Education Requirement: Natural Scientific Inquiry, Physical Sciences
Analysis of modern theory and data, implications and possibilities in the physical sciences. Offered Yearly.
Repeatable for 9 Credits

HON 4250 Seminar: Global Perspectives on Historical Studies Cr. 3
Satisfies General Education Requirement: Global Learning Inquiry, Historical Studies
Studies of periods of history in which there has been major transition or change. Offered Yearly.
Repeatable for 9 Credits

HON 4260 Seminar in Foreign Culture Cr. 3
Satisfies General Education Requirement: Foreign Culture, Global Learning Inquiry
Humanistic or social science investigation of peoples and institutions in other cultures. Offered Yearly.
Repeatable for 9 Credits

HON 4280 General Honors Seminar Cr. 3
In-depth exploration of important concepts and approaches in liberal studies. Topics to be announced in Schedule of Classes. Offered Yearly.
Repeatable for 9 Credits

HON 4930 Detroit Fellows Tutoring Project Cr. 2-4
Community-based service-learning project designed to improve the reading skills of elementary school students through one-on-one mentoring. Monthly seminar sessions to discuss progress and techniques required. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Undergraduate level students.
Repeatable for 16 Credits

HON 4940 Service-Learning Internship Cr. 1-3
Service-learning project with a local community partner. Collateral reading, written work, arranged conferences with faculty supervisor. Offered Every Term.
Restriction(s): Enrollment is limited to Undergraduate level students.
Repeatable for 6 Credits

HON 4950 MedStart Seminar Cr. 2
Explorations of various dimensions of health care through shadowing, service, and attendance at the monthly seminars at the Wayne State University School of Medicine. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Undergraduate level students.
Repeatable for 16 Credits

HON 4970 BStart Seminar Cr. 1
Training of future leaders in business by emphasizing mentoring and research opportunities with business school faculty. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Undergraduate level students.
Repeatable for 8 Credits

HON 4980 University Scholars Seminar Cr. 1
International learning and experiences of designated scholarship students in the Honors College. Reflection and presentation on specific topics related to the local, regional, national and international landscapes. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Undergraduate level students.
Repeatable for 8 Credits

HON 4990 Honors Directed Study Cr. 1-4
Offered Yearly.
Repeatable for 8 Credits

HON 4998 University Honors Thesis Cr. 3-6
Independent research project, essay, or creative project. Students are responsible for identifying their own research project and full-time faculty member. At the end of the first semester a deferred grade of Y will be assigned, with a grade change processed at the completion of the thesis in a subsequent semester. Offered Every Term.

IBS - INTERDISCIPLINARY BIOMEDICAL SCIENCES

IBS 7015 Interdisciplinary Cell and Molecular Biology Cr. 6
The fundamental biochemistry, molecular biology, and function of eukaryotic cells. Includes study of the structure and purpose of the basic components of eukaryotic cells; how eukaryotic cells obtain and utilize energy, process information, and replicate or self-destruct; and examples of how specific cell types contribute to multicellular biological processes and systems in normal and disease states. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Medicine; enrollment limited to students in a Doctor of Philosophy degree.

IBS 7030 Functional Genomics and Systems Biology Cr. 2
Exploration of several new technologies for determining gene function on a genome-wide scale and for integrating information into a systems-level view of biological processes. Offered Winter.
Prerequisite: IBS 7015 with a minimum grade of C or MGG 7010 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Medicine; enrollment limited to students in a Doctor of Philosophy degree.
Equivalent: MGG 7030

IBS 7050 Biomedical Neurobiology Cr. 2
Sensory, motor, and integration of nervous systems, including anatomic and cellular organization, systemic and cellular-molecular functions, and diseases. Offered Winter.
Prerequisites: IBS 7015 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Medicine; enrollment limited to students in a Doctor of Philosophy degree.

IBS 7090 Biomedical Immunology Cr. 2
Cellular-molecular and systemic functions, and diseases of the immune system. Offered Winter.
Prerequisites: IBS 7015 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Medicine; enrollment limited to students in a Doctor of Philosophy degree.

IBS 7100 Biomedical Neuropharmacology Cr. 2
General principles, including cellular and molecular basis of drug action with special emphasis on neuronal systems. Offered Winter.
Prerequisites: IBS 7015 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate or Medical level students; enrollment limited to students in the School of Medicine.

IBS 7110 Introduction to the Business of Biotechnology Cr. 3
Translation of biomedical innovation from bench to bedside, with focus on interplay between healthcare needs, regulatory agencies, and commercialization pathways. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: BMS 7100

IBS 7115 Special Topics in Biotechnology Commercialization Cr. 1
Designed to provide practical experience in defining the relationships between academic discovery science and business development, with a focus on best practices for presenting basic research-commercial products to external, interested individuals. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: BMS 7115

IBS 7130 Systems Neuroscience: Structure and Function of the Nervous System Cr. 2
Basic principles of neural science through examination of structure and function of the major physiological systems within the brain and spinal cord. Offered Winter.
Prerequisites: IBS 7015 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate or Medical level students; enrollment limited to students in the School of Medicine.

IBS 7140 Foundations of Data Science Cr. 3
Introduction to basic concepts of linear algebra and their application to data analysis. MATLAB and PYTHON programs are introduced and employed as tools for practical implementation of computational methods. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: BMB 7140

IBS 7330 Advanced Molecular Biology Cr. 2
Modern topics in biochemistry, including nucleic acid dynamics, genomic structure, DNA replication and repair, transcription, RNA processing, translation and protein synthesis. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students.

IE - INDUSTRIAL ENGINEERING

IE 1560 Operations Research: Deterministic Mathematical Models Cr. 2
Introduction to mathematics of decision making in industry and government. Offered Every Term.
Restriction(s): Enrollment is limited to Undergraduate level students.

IE 3120 Work Design Cr. 3
Role of the human as an element of the work environment. Traditional issues of work standards, productivity analysis and occupational safety are introduced. Examination of functional and organizational role of the worker; impact of emerging computer-based technologies on work design and implementation strategies is discussed. Offered Fall.
Prerequisite: BE 2100 with a minimum grade of C-
Restriction(s): Enrollment limited to students in the College of Engineering; enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering.

IE 3450 Manufacturing Processes I Cr. 3
A study of the field of manufacturing processes from a mechanical engineering design standpoint. Topics include: processing of metals, polymers and ceramics, and computer-aided manufacturing. Offered Fall, Winter.
Prerequisites: BE 1500 with a minimum grade of C- and ME 2420 with a minimum grade of C- and BE 1300 with a minimum grade of C- and BE 1310 with a minimum grade of C-
Restriction(s): Enrollment limited to students in the College of Engineering; enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering.
Course Material Fees: $25
Equivalent: ME 3450

IE 3460 Manufacturing Processes Lab Cr. 1
Laboratory to accompany I E 3450. Offered Fall.
Restriction(s): Enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering.

IE 4120 Introduction to Human Factors Engineering Cr. 4
Current practice perspective on human capabilities and limitations as a component in engineering systems. Analysis and design of human-centered systems, with emphasis on applications. Offered Winter.
Prerequisite: BE 2100 with a minimum grade of C-
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering.

IE 4250 Engineering Data Analysis Cr. 3
Advanced concepts for the analysis of variability in engineering problems, multivariate distributions, hypothesis testing, non-parametric statistics, point and interval estimation, fitting straight lines, goodness of fit tests, contingency tables and introduction to the analysis of variance. Offered Winter.
Prerequisite: BE 3220 with a minimum grade of C- or BE 2100 with a minimum grade of C-
Restriction(s): Enrollment limited to students in the College of Engineering; enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering.

IE 4260 Principles of Quality Control Cr. 3
Statistical quality control including process capability, control charts, and acceptance sampling procedures. Procedures for measurement of dimensional tolerance are introduced. Computer-based data collection and analysis. Offered Yearly.
Prerequisite: BE 2100 with a minimum grade of C-
Restriction(s): Enrollment limited to students in the College of Engineering; enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering.

IE 4310 Production Control Cr. 3
Satisfies General Education Requirement: Writing Intensive Competency
The design of production planning and control systems. Materials management, forecasting, planning, scheduling of production systems, the planning and scheduling for large scale projects and introduction to the design of computerized materials management systems. Applications of operations research models to production control problems. Offered Winter.
Prerequisite: IE 4560 with a minimum grade of C- and ENG 3050 with a minimum grade of C-
Restriction(s): Enrollment limited to students in the College of Engineering; enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering.

IE 4330 Facilities Design Cr. 3
Design of manufacturing, warehouse and material handling facilities. Use of analytic and computer-aided methods in the facilities design process. Offered Winter.
Restriction(s): Enrollment limited to students in the College of Engineering; enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering.

IE 4355 Product Engineering Cr. 3
Current principles and processes of product engineering. Use of integrated product engineering processes and methods. Offered Winter.
Prerequisite: BE 2100 with a minimum grade of C-
Restriction(s): Enrollment limited to students in the College of Engineering.

IE 4420 Systems Simulation Cr. 3
Systems modeling and discrete event simulation. Methodology applied to analysis and design of a broad range of systems including both production and service systems. Computer assignments and a term project are required. Offered Yearly.
Prerequisites: BE 1200 with a minimum grade of C- and BE 2100 with a minimum grade of C- and BE 2550 with a minimum grade of C-
Restriction(s): Enrollment limited to students in the College of Engineering; enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering.

IE 4560 Operations Research Cr. 3
An introduction to the philosophy of operations research. Formulation of linear programming models and their solution. Duality and sensitivity analysis. The transportation model. Introduction to probabilistic modeling and applications of queueing models. Offered Fall.
Prerequisite: BE 2100 with a minimum grade of C- and MAT 2150 with a minimum grade of C-
Restriction(s): Enrollment limited to students in the College of Engineering; enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering.

IE 4700 Leadership in Manufacturing Cr. 3
Leadership of individuals and teams in a unionized manufacturing environment. Technical elective for Production Leadership Management Program (PMPL) students. Offered Fall.
Restriction(s): Enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering.

IE 4710 Labor Relations in Manufacturing Cr. 3
Knowledge and skills in administering labor agreements. Technical elective for Production Leadership Management Program (PMLP) students. Offered Winter.
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering.

IE 4800 Engineering Design I: Project Management Cr. 2
Project selection, team building, and methodological preparation required for Engineering Design Project II. Offered Yearly.
Prerequisites: 2 of IE 4420 with a minimum grade of C-, IE 4330 with a minimum grade of C-, IE 4560 with a minimum grade of C- and IE 3120 with a minimum grade of C- and IE 4250 with a minimum grade of C- and IE 4850 with a minimum grade of C-
Restriction(s): Enrollment limited to students in the College of Engineering; enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering.

IE 4850 Engineering Economy Cr. 3
Economic analysis of engineering projects. Selection of appropriate interest rates and methods of analysis, depreciation, tax considerations, and use of accounting data in comparison of investment alternatives. Offered Yearly.
Prerequisite: BE 2100 with a minimum grade of C-
Restriction(s): Enrollment limited to students in the College of Engineering; enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering.
Course Material Fees: $10
Equivalent: CE 4850

IE 4880 Engineering Design II Cr. 2
Intensive design experience defined and executed by the student. Requires synthesis and application of skills and knowledge gained in the program. Offered Winter.
Prerequisites: May be taken concurrently: IE 4260 with a minimum grade of C- and May be taken concurrently: IE 4310 with a minimum grade of C- and May be taken concurrently: IE 4330 with a minimum grade of C- and May be taken concurrently: IE 4420 with a minimum grade of C- and May be taken concurrently: IE 4560 with a minimum grade of C- and IE 4800 with a minimum grade of C-
Restriction(s): Enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering.

IE 4990 Directed Study Cr. 1-6
Supervised study and instruction in a field selected by the student. Offered Intermittently.
Restriction(s): Enrollment limited to students in the College of Engineering; enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering.

IE 5490 Creative Problem Solving in Design and Manufacturing Cr. 3
Concepts of laws of natural development of engineering systems. Algorithm for inventive (creative) problem-solving (AIPS-85). Creative use of physical and geometrical effects in design of mechanical and manufacturing systems. Concepts of strength, stiffness, vibratory effects, reliability in mechanical design. Offered Yearly.
Equivalent: ME 5470, SYE 5470

IE 5780 Products Liability Introduction for Engineers Cr. 1
Application of engineering practice to minimize products liability exposure. Stages of a products liability lawsuit; how engineers may be involved at different stages of the process. Offered Yearly.
Restriction(s): Enrollment limited to students with a class of Applicant Masters, Candidate Masters or Senior; enrollment limited to students in the College of Engineering.
Equivalent: ME 5780

IE 5995 Special Topics in Industrial Engineering Cr. 1-4
Special subject matter in industrial engineering. Topics to be announced in Schedule of Classes . Offered Intermittently.

IE 6000 Digital Automation Cr. 3
Fundamentals of digital control and logic; integration and automation solution technologies (barcode systems, vision systems, etc.); data acquisition. Offered Fall, Spring/Summer.

IE 6005 Automotive Engineering Statistics Cr. 3
Introduction to probability and statistics for engineering students: analysis of random component in problems, understanding probability and statistics, opportunities for application, analysis of data using statistical software. Offered for graduate credit only. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.

IE 6210 Applied Engineering Statistics Cr. 3
An applied statistics course for students in engineering that will build upon introductory statistical knowledge. Students will learn to identify the phenomena they would like to study, design, and run experiments; collect data and analyze it by applying statistical tools such as multiple regression, ANOVA, and non-parametric statistical tools; and report on the statistical results and their implication to engineering phenomena. No credit for AGRADE undergraduates after taking IE 4250. Offered Fall, Winter.

IE 6220 Value Engineering Cr. 3
Resource management; systematic approach to solving problems and making decisions; forcing latent capabilities to be applied to challenging assumptions; application of unbiased logic techniques to produce superior results. Offered Spring/Summer.

IE 6240 Quality Management Systems Cr. 3
Design of quality management systems. Topics include: QFD, quality planning, business operating systems, TQM, standards, and auditing. Quality management tools such as PDCA and root case analysis. Offered Winter.

IE 6255 Quality Engineering Cr. 3
Quality Engineering means achieving quality by design, so this course covers several important methods in supporting engineering design activities. These methods include quality function deployment, axiomatic design, Theory of Inventive Problem Solving (TRIZ), Taguchi method (robust design) and tolerance design. Offered Fall, Winter.
Prerequisite: IE 6210 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

IE 6270 Engineering Experimental Design Cr. 3
The design of engineering experiments for manufacturing process analysis, human factors experimentation, societal systems analysis and life testing; basic experimental design models, blocking, factorial experiments, nested designs, covariance analysis, response surface analysis, estimation of effects. Offered Fall.
Prerequisite: IE 6210 with a minimum grade of C or IE 4250 with a minimum grade of C-

IE 6275 Reliability Estimation Cr. 3
The course is designed for graduate students specializing in quality engineering. These individuals play a significant role in designing and developing new products and manufacturing systems and processes. Topics include: reliability measures, failure distributions, reliability block diagrams, reliability estimation using exponential and Weibull distributions, sequential life testing, test planning, and Bayesian reliability. Offered Fall.
Prerequisite: IE 4250 with a minimum grade of C- or IE 6210 with a minimum grade of C

IE 6310 Lean Operations and Manufacturing Cr. 3
Fundamental theories and concepts in lean manufacturing, six-sigma, mistake proofing, problem solving, process management. Students develop competency in identifying causes and sources of waste in manufacturing, industrial, and business operations. Offered Fall, Winter.
Prerequisite: IE 4250 with a minimum grade of C- or IE 6210 with a minimum grade of C

IE 6315 Production and Service Systems Cr. 3
Fundamental theories and concepts in the design and operation of production systems for manufacturing and service organizations. Topics may include: Inventory Management, Production Planning (MRP, JIT, ERP), Factory Physics, Production Control, Introduction to Supply Chain Management Offered Winter.
Prerequisite: IE 6210 with a minimum grade of C and IE 6560 with a minimum grade of C

IE 6325 Supply Chain Management Cr. 3
Supply chain management and logistics is unique and, to some degree, represents a paradox because it is concerned with one of the oldest and also the most newly discovered activities of business. Supply chain system activities - communication, inventory management, warehousing, transportation, facility location, and production - have been performed since the start of commercial activity. It is difficult to visualize any product that could reach a customer without logistical support. Yet, it is only over the last decade that firms have started focusing on logistics and supply chain management as a source of competitive advantage. Logistics and supply chain management today represents a great challenge as well as a tremendous opportunity for most firms. Another term that has appeared in business jargon recently is demand chain. From our perspective, we will use the phrases logistics management, supply chain management, and demand chain management interchangeably. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.

IE 6405 Integrated Product Development Cr. 3
Product development process: product architectures, concurrent engineering. Integration of marketing, design, and manufacturing functions for product development. How such processes are designed to account for various manufacturing and other business constraints to ensure that customer needs are met. Offered Fall.
Restriction(s): Enrollment limited to students in the College of Engineering.
Equivalent: AET 5600, EVE 5600

IE 6420 Computer Aided Manufacturing and Lab Cr. 3
Develops students into competent engineers capable of managing the process of product and service realization. Provides an understanding of product, service and workflow realization process from conception through market research and validation, to product/service design and production, and then distribution. Topics covered include business context, innovation and entrepreneurship, process planning, computer-aided manufacturing (CAM), integration of manufacturing equipment and material handling systems, manufacturing execution systems, manufacturing planning and control, and logistics and distribution. Offered Winter.

IE 6422 Flexible Manufacturing Systems Cr. 3
Flexible manufacturing systems are a highly automated group technology machine cell, consisting of a group of processing stations, interconnected by an automated material handling and storage system, and controlled by an integrated computer system. The analysis and design of flexible manufacturing systems will be covered, including: FMS control and communication architecture, FMS material handling architecture, flexibility analysis, and computer-integrated manufacturing (CIM). Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students.

IE 6425 Product Lifecycle Management and Sustainable Design Cr. 3
The aim of this class is to familiarize the current principles, practices, and applications of Product Lifecycle Management (PLM). The sustainable design of products and processes, as well as the early consideration of constraints and factors, are important in the successful development of competitive products. PLM is an integrated, information driven approach to all aspects of a products life from its design inception, through its manufacture, deployment and maintenance, culminating in its removal from service and final disposal. PLM technology plays a critical role in most modern industries including aerospace, automobile, and medical. Effective integration of PLM technologies into the product development process can put the industry at a competitive advantage to deliver innovative products. Offered Winter.

IE 6430 Computer Simulation Methods Cr. 3
The application of discrete, continuous and combined simulation methods to the solution of a variety of production and service systems problems. Computer simulation and a term project involving an application are required. No credit after IE 4420. Offered Fall, Winter.
Prerequisite: IE 6210 with a minimum grade of C

IE 6435 Fundamentals of Sustainable Manufacturing Cr. 3
Sustainable manufacturing, as defined by the U.S.A. Department of Commerce, is "the creation of manufactured products that use processes that minimize negative environmental impacts, conserve energy and natural resources, are safe for employees, communities, and consumers and are economically sound." This course is designed to ntroduce the fundamental concepts of sustainable manufacturing. While the focus will be on sustainable manufacturing, topics will also include connections of sustainable design, environmental sciences, and the social sciences with sustainable manufacturing. Offered Every Other Fall.

IE 6442 Facilities Design and Materials Flow Cr. 3
Presents the fundamental concepts, theory and procedures required for effective facilities design and planning. Includes models for determining plant size and time phasing; design of manufacturing, warehouse and material handling facilities; and use of analytic and computer-aided methods in the facilities design process. No credit after IE 4330. Offered Fall, Winter.

IE 6470 Stochastic System Modeling: Queuing and Simulation Cr. 2
Description of queuing systems; analytical solutions; discrete events systems; modeling framework and object models; terminating and non-terminating systems; statistical analysis; case studies. Offered Yearly.

IE 6490 Introduction to Systems Engineering in Design Cr. 3
Provides an introduction to the engineering and analysis of human-made systems with an emphasis on the process of bringing systems into being. Includes an introduction to systems sciences and engineering and will follow the engineering process from conceptual systems design through concept selection, concept validation, life-cycle acquisition, life-cycle costing, software development, system architecture, and risk management. Addresses system engineering program evaluation including: evaluation requirements, evaluation of the system engineering organization, and program reporting, feedback, and control. Offered Fall.
Restriction(s): Enrollment limited to students in the College of Engineering.

IE 6510 Information Systems for the Manufacturing Enterprise Cr. 3
Information systems are used to make organizations leaner and more integrated across the entire Manufacturing Enterprise. A suite of information systems is to provide an environment that allows an engineer to consider both product and manufacturing requirements throughout the design, development, manufacturing cycle, resulting in a single unified concurrent engineering process, an integral knowledge management process, and rapid response to market changes. This course will teach information technologies and applications in the manufacturing industry. Offered Fall.

IE 6520 Negotiating in an IE Environment Cr. 3
Analytic and interpersonal skills needed to negotiate effectively. Students integrate the analytic and interpersonal skills necessary to be an effective negotiator in a rapidly-changing technical environment. Offered for graduate credit only. Offered Every Other Winter.
Restriction(s): Enrollment is limited to Graduate level students.

IE 6560 Deterministic Optimization Cr. 3
The primary goals are to develop the ability to formulate fairly complex optimization problems, provide an appreciation of the main classes of problems that are practically solvable, describe the available solution methods, and build an understanding of the qualitative properties of the solutions they provide. The class participant will develop skills in recognizing and formulating deterministic optimization models and gain an appreciation for the role of sensitivity analysis in analyzing a problem. Covers methods for quantifying the impact of specific constraints on the overall performance of the system. Application areas include production scheduling, product mix planning, manpower planning, routing and scheduling, financial planning, and prototype builds. Offered Fall, Winter.

IE 6580 Engineering Financial Practice Cr. 3
Combines the central concepts of engineering financial and engineering managerial economics. Demonstrates, from an engineering financial perspective, how engineering decisions can impact the economic goals of the company. Offered Every Other Winter.
Restriction(s): Enrollment is limited to Graduate level students.

IE 6590 Engineering Leadership: Strategic Communications Cr. 3
Leaders in an engineering work environment face unique team and organizational communication challenges. Strong and precise communication is key to effective leadership and organizational efficiency. Participants in this course will engage in the practical and theoretical aspects of verbal and nonverbal communications in leadership and in the workplace. Offered Every Other Winter.
Restriction(s): Enrollment is limited to Graduate level students.

IE 6611 Fundamentals of Six Sigma Cr. 3
The attraction of Lean Six Sigma is obvious — designs that work, fewer defects and wastes in manufacturing, faster processes, lowered production costs, and greater customer satisfaction. With these pluses, it's no wonder the world's leading companies are adopting the Six Sigma approach to product development in ever-growing numbers. This comprehensive course covers the fundamental aspects of Lean and Six Sigma, Lean operation principles and tools, and the Six Sigma process improvement, that is Define-Measure-Analyze-Improve-Control (DMAIC). Offered Winter, Spring/Summer.

IE 6720 Engineering Risk and Decision Analysis Cr. 3
Structure, modeling and analysis of technical management decisions with emphasis on multiple objectives and trade-offs, and significant uncertainty. Explores barriers to rational decision making. Offered Spring/Summer.
Prerequisite: IE 6210 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

IE 6830 Management of Technology Change Cr. 3
Focuses on technology change and use of systems approach to plan for, manage and implement the diffusion and dynamics of product, process and business model innovation. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.

IE 6840 Project Management Cr. 3
Provides an appreciation for the role and importance that project management has in delivering complex engineering projects on time, within budget, within performance specifications, and satisfying the customer. Reviews the fundamental content of the nine knowledge areas and five process groups included in the PMI's Project Management Body of Knowledge and how they apply to the general stages of a product development project with a look at some basic techniques and tools. Offered Winter.

IE 6850 Manufacturing Strategies Cr. 3
Manufacturing strategy is one aspect of a company's business strategy that also includes marketing, finance, and research and development. Each strategy development must coexist to achieve the company's goal, meet customer demands, and stay competitive. The objective of this course is to introduce and discusses key components of manufacturing strategy and how this fits within an overall business strategy. Offered Intermittently.

IE 6991 Industrial Internship Cr. 1-3
Offered Fall, Winter.
Repeatable for 99 Credits

IE 7100 Mathematical Modeling in Impact Biomechanics Cr. 4
Review of models created for impact simulations. Regional impact simulation models. Human and dummy models subject to various restraint systems. Offered Winter.
Prerequisite: BME 5010 with a minimum grade of B-
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: BME 7100, ECE 7100, ME 7100

IE 7125 Human Factors Engineering Cr. 4
Current methods and topics in engineering research on human capabilities and limitations as a system component. Advanced analysis, modeling and design of human-centered systems. Offered Winter.
Prerequisite: BE 2100 with a minimum grade of C-
Restriction(s): Enrollment is limited to Graduate level students.

IE 7220 Advanced Statistical Methods Cr. 3
Statistics is the science to collect, descript, analyze, interpret, and draw conclusions on data. This course introduces students to the conceptual underpinnings of statistical methods and how to apply them to address more advanced statistical questions than are covered in an introductory statistics course. The statistical methods covered in this course are useful for many types of questions that relate to multiple variables and/or multiple groups. Offered Every Other Winter.
Restriction(s): Enrollment is limited to Graduate level students.

IE 7290 Quality and Productivity Management Cr. 4
Topics in product assurance management including: definition, history, philosophy of quality. Strategic elements of proactive quality, design for quality, process project control, reliability program management. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.

IE 7400 Capstone: Integrated Product Engineering Cr. 4
Integration of product development tools and theory. Industry-based project to develop hands-on experience with integrated project design and development. Application to robust product development methodologies. Offered Winter.
Prerequisite: IE 6400 with a minimum grade of C and IE 6410 with a minimum grade of C and IE 6420 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

IE 7410 Agile Systems for the Manufacturing Enterprise Cr. 2
Factors that help define the agility of a system; greater workforce autonomy and changes in training and production of technical personnel. Main elements of operations management. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.

IE 7445 Manufacturing Analytics Cr. 3
Provides a deep understanding of the intersection of manufacturing and analytics and its application in current manufacturing industries to improve operations and gain competitive advantages. Covers fundamental concepts from data acquisition to analysis to decision making in manufacturing, specifically, manufacturing process and systems data acquisition; manufacturing data and information systems hierarchies and flows (IT/OT layers); manufacturing analytics, both real-time and historical; and data driven manufacturing decision making. Offered Every Other Fall.
Prerequisite: IE 6210 with a minimum grade of C
Restriction(s): Enrollment limited to students in a Doctor of Philosophy degree.

IE 7480 Knowledge-Based Design Cr. 3
Provides in-depth understanding of knowledge roles, knowledge elicitation techniques, knowledge based system and system modeling issues, and semantic modeling to support product design. Students will learn the concepts via lecture, articles, and semantic product model implementation projects. Offered Every Other Winter.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.

IE 7511 Linear and Nonlinear Optimization Cr. 3
The primary goal of the course is to provide a solid foundation in the deterministic optimization field. The basic concepts in linear programming and nonlinear programming will be covered. Topics include: convex sets/functions, duality, and sensitivity from different perspectives; simplex algorithm for solving linear programming problems; unconstrained and constrained optimization, nonlinear duality theory, Lagrangian relaxation, and algorithmic methods for solving nonlinear programs (including descent methods, Newton's method, conjugate gradient methods, and penalty and barrier methods). Offered Every Other Fall.
Restriction(s): Enrollment is limited to Graduate level students.

IE 7520 Optimization Methods Cr. 4
Introduction to optimization theory and optimization problems. Necessary and sufficient conditions for optimality. Mathematics and algorithms of linear programming. Non-linear programming and integer programming. Research methods. Duality in optimization problems. Geometric programming. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.

IE 7521 Large Scale Optimization and Integer Programming Cr. 3
Examines modeling and solution methodologies for large scale optimization and integer programming problems. Presents the theory and the exact and approximate techniques that have been developed to solve related models. Techniques include branch and bound, cutting planes, Lagrangian relaxation, Bender's decomposition, and column generation. Polyhedral theory will be discussed at some length. Offered Every Other Winter.
Prerequisite: IE 6560 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

IE 7535 Stochastic Programming and Robust Optimization Cr. 3
Introduction to models, theory and computational methods for stochastic programming and robust optimization. Methods include decomposition-coordination algorithms for large-scale mathematical programming such as Benders, regularized Benders, Dantzig-Wolfe, L-shaped and statistically motivated decomposition methods. Applications, theory and practical algorithm implementation and computational experimentation will be emphasized. Particular attention will be given to large-scale problems, and use of cluster and grid computing architectures to solve them to optimality. Offered Every Other Fall.
Restriction(s): Enrollment limited to students in a Doctor of Philosophy degree.

IE 7570 Deterministic System Models and Optimization Cr. 2
Methods for quantifying impact of specific constraints on overall performance of a system; use of journal articles on corporate use of these models. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.

IE 7620 Advanced Reliability and Survival Analysis Cr. 3
Focuses on general methods used to analyze the reliability and survival data. Introduces the methods to analyze the expected duration of time until one or more events happen, such as death in biological organisms and failure in mechanical systems. Illustrates the use of proven traditional techniques for reliability and survival data analysis and prediction, and brought up to date with modern computer-based graphical, analytical, and simulation-based methods. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.

IE 7710 Introduction to Stochastic Processes Cr. 4
Fundamental understanding of various probability models from applied and theoretical perspectives. Topics include: probability review, Markov chains, Poisson process, continuous time Markov chains, queuing processes, and inventory applications. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.

IE 7811 Data Mining: Algorithms and Applications Cr. 3
Application of various basic/advanced data mining techniques to real-world problems. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: CSC 7810

IE 7860 Intelligent Analytics Cr. 3
Computational intelligence methods used to solve complex analytics problems and develop decision support systems. Project-centric approach with the goal of developing several analytics solutions for real-world problems. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $50

IE 7990 Directed Study Cr. 1-6
Student selects some field of industrial engineering for advanced study and instruction. An outline approved by the instructor must be presented before registration in this course. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 6 Credits

IE 7995 Graduate Special Topics Cr. 1-4
Special subject matter in industrial engineering. Topics to be announced in Schedule of Classes. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 12 Credits

IE 7996 Research Cr. 1-6
Advanced design, investigation or experimental work. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 6 Credits

IE 7999 Engineering Management Leadership Project Cr. 1-6
Integration of knowledge from individual courses in M.S. engineering management curriculum. Team-oriented focus on major industrial problem. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students with a class of Candidate Masters.
Repeatable for 10 Credits

IE 8920 Decision and Risk Analysis for Research Cr. 3
Structure, modeling, and analysis of technical global management decisions with emphasis on multiple objectives and trade-offs, and significant uncertainty. Explores current trends in decision analysis research. Offered Every Other Fall.
Restriction(s): Enrollment is limited to students with a major in Industrial Engineering GET or Industrial Engineering; enrollment limited to students in a Doctor of Philosophy degree.

IE 8930 Global Perspectives and Networks Cr. 3
Provides technical leaders with a system of frameworks to holistically understand and practically manage operations, to be technologically competitive in the global marketplace. Foundation for the Country Courses. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major, minor, or concentration in Industrial Engineering GET or Industrial Engineering GET.

IE 8941 From Idea through Launch: Products and Services I Cr. 2-3
Course comprised of twelve modules; the processes and progression from product or service innovation to development and launch. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major, minor, or concentration in Industrial Engineering GET or Industrial Engineering GET.

IE 8942 From Idea through Launch: Products and Services II Cr. 2-4
Course comprised of twelve modules; the processes and progression from product or service innovation to development and launch. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major, minor, or concentration in Industrial Engineering GET or Industrial Engineering GET; enrollment limited to students in the PhD in Engineering program.

IE 8943 From Launch through Sustainability: Products and Services I Cr. 2-4
From when the finished product hits the market to all the steps necessary to make the product sustainable. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major, minor, or concentration in Industrial Engineering GET or Industrial Engineering GET.

IE 8944 From Launch through Sustainability: Products and Services II Cr. 2-4
From when the finished product hits the market to all the steps necessary to make the product sustainable. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major, minor, or concentration in Industrial Engineering GET or Industrial Engineering GET.

IE 8950 Advanced Engineering Statistics Cr. 3
Skill development in model building, ANOVA, multiple regression, multivariate statistics, forecasting, and time series modeling. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering; enrollment is limited to students with a major, minor, or concentration in Industrial Engineering GET or Industrial Engineering GET; enrollment limited to students in the PhD in Engineering program.

IE 8951 Research Design Cr. 3
Focus on qualitative research design and methods. Discussion of conceptual and practical facets of the process of framing a research question, up to development of an instrument for data collection. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering; enrollment is limited to students with a major, minor, or concentration in Industrial Engineering GET or Industrial Engineering GET.

IE 8952 Research Methods Cr. 3
Focus on quantitative research design and methods. Topics such as purpose of statistical models, mathematical representation, interpretation, and methods are covered. Typical methods include: multiple regression, multivariate analysis (including survey data), and structural equation modeling. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering; enrollment is limited to students with a major, minor, or concentration in Industrial Engineering GET or Industrial Engineering GET.

IE 8960 Literature Review Cr. 1-2
Development of library skills for identifying key authors, articles, journals, books, dissertations, case studies, conferences, web sites, professional associations, and NSF funding for a scholarly area of interest. Offered Spring/Summer.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering; enrollment is limited to students with a major, minor, or concentration in Industrial Engineering GET or Industrial Engineering GET; enrollment limited to students in the PhD in Engineering program.

IE 8970 Leadership of the Global Technical Organization Cr. 3
Understanding the elements of leadership and the dynamics of leadership behavior; development of the skills necessary for leading in a global technical organization. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major, minor, or concentration in Industrial Engineering GET or Industrial Engineering GET.

IE 8993 Graduate Seminar: Supply Chain Management Cr. 1
Research and development methods for Ph.D. students: literature review, identification of research opportunities, investigation of specific topics; assessment of major contributions and of gap between application and theory. Students present research findings and receive feedback. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the PhD in Engineering program.

IE 8995 Graduate Seminar Cr. 1
Research and development methods. Leading-edge research topics. Platform for student to present preliminary research findings and obtain feedback. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the PhD in Engineering program.
Repeatable for 99 Credits

IE 8999 Master's Thesis Research and Direction Cr. 1-8
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students with a class of Candidate Masters.
Repeatable for 8 Credits

IE 9990 Pre-Doctoral Candidacy Research Cr. 1-8
Research in preparation for doctoral dissertation. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 12 Credits

IE 9991 Doctoral Candidate Status I: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.

IE 9992 Doctoral Candidate Status II: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: IE 9991 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

IE 9993 Doctoral Candidate Status III: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: IE 9992 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

IE 9994 Doctoral Candidate Status IV: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: IE 9993 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

IE 9995 Candidate Maintenance Status: Doctoral Dissertation Research and Direction Cr. 0
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $370.26
Repeatable for 0 Credits

IM - IMMUNOLOGY AND MICROBIOLOGY

IM 7010 Fundamentals of Immunology Cr. 2
Basic concepts and current developments in immunology, including cellular and molecular aspects, regulation, and immunopathological mechanisms. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students.

IM 7020 Fundamentals of Microbiology Cr. 2
Basic aspects of bacteriology, genetics and mycology. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students.

IM 7030 Molecular Biology of Viruses Cr. 2
Basic principles of virology including virus host interactions and the molecular biology of virus multiplication and genetics. Offered Winter.
Prerequisite: BMB 7010 with a minimum grade of C or MGG 7010 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

IM 7040 Fundamentals of Research Cr. 2
Lecture/discussion of practical aspects of professional scientific research. Offered Fall.
Restriction(s): Enrollment is limited to Graduate or Medical level students; enrollment limited to students in the School of Medicine.

IM 7410 Cancer Immunology and Immunotherapy Cr. 3
Cancer immunotherapy based on the molecular mechanisms of T-cell development, tolerance and activation. Topics include T-cell receptor and co-stimulatory signal-mediated regulation of T-cell activation, transcriptional regulation of T-cell differentiation, and T-cell effector function and regulatory mechanisms. Each week will consist of a one-hour lecture and a two-hour discussion. Offered Every Other Winter.
Prerequisite: IBS 7015 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: CB 7410

IM 7450 Current Trends in Immunology, Microbiology and Virology Cr. 1-5
Lectures and discussions on current literature and research problems. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students.

IM 7520 Molecular Mechanisms of Bacterial Pathogenesis Cr. 2
The roles of bacterial virulence factors such as tissue colonization, invasion, and exotoxins in pathogenesis. The genetic regulation of bacterial virulence factors will be discussed. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Immunology and Microbiology.

IM 7850 Research Conferences in Immunology and Microbiology Cr. 1-5
Seminars and discussions in selected areas. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Immunology and Microbiology.

IM 7890 Seminar Cr. 1
Weekly BMI seminar series. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Immunology and Microbiology.

IM 7996 Research Cr. 1-8
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Immunology and Microbiology.
Repeatable for 25 Credits

IM 8999 Master's Thesis Research and Direction Cr. 1-8
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students with a class of Candidate Masters.
Repeatable for 8 Credits

IM 9990 Pre-Doctoral Candidacy Research Cr. 1-8
Research in preparation for doctoral dissertation. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 12 Credits

IM 9991 Doctoral Candidate Status I: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.

IM 9992 Doctoral Candidate Status II: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: IM 9991 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

IM 9993 Doctoral Candidate Status III: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: IM 9992 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

IM 9994 Doctoral Candidate Status IV: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: IM 9993 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

IM 9995 Candidate Maintenance Status: Doctoral Dissertation Research and Direction Cr. 0
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $370.26
Repeatable for 0 Credits

INF - INFORMATION SCIENCES

INF 6000 Introduction to Information Management Cr. 3
Introduction to current data/information management from an interdisciplinary perspective, incorporating the latest ideas, techniques, and technologies into the data/information life cycle. Offered for graduate credit only. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Information Sciences.

INF 6010 Introduction to the Information Profession Cr. 3
The development and place of libraries in society; objectives, functions of and trends in major types of libraries. Core course. Prerequisite for all MLIS courses. Offered for graduate credit only. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Information Sciences.

INF 6050 Introduction to Computer Programming Cr. 3
Introduction to the basics of programming, utilizing scripts to connect and retrieve information from a database, and the development of coding skills that will allow creation of more advanced applications. Offered Every Term.

INF 6080 Information Technology Cr. 3
Storage and retrieval problems as approached by conventional and nonconventional methods. Computer applications in libraries. Core course. Offered for graduate credit only. Offered Every Term.
Prerequisites: May be taken concurrently: INF 6010 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Information Sciences.

INF 6120 Access to Information Cr. 3
Reference function of the library including print and electronic reference sources; development of interpersonal communication skills to increase effectiveness in response to patrons' information needs; effective search strategies for all types of reference. Core course. Offered for graduate credit only. Offered Every Term.
Prerequisites: May be taken concurrently: INF 6010 with a minimum grade of C and May be taken concurrently: INF 6080 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Information Sciences.

INF 6210 Organization of Knowledge Cr. 3
Characteristics of recorded knowledge; identification and description of recorded information; principles of physical description, authority control, and subject access; creation of catalogs and databases. Core course. Offered for graduate credit only. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Information Sciences.

INF 6350 Design Thinking and Knowledge Cr. 4
Exploring broad conceptions of design including all activities involved in generating intentional change via artifacts and experiences; design thinking and knowledge. Offered for graduate credit only. Offered Yearly.
Prerequisites: May be taken concurrently: INF 6010 with a minimum grade of C and May be taken concurrently: INF 6080 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Information Sciences.
Equivalent: LDT 7111

INF 6360 Producing and Evaluating Technology-Based Instructional Materials Cr. 4
Design and development of instructional materials and media with an emphasis on technology applications integration. Creation and evaluation of instructional media and materials, based on national and state technology standards. Offered for graduate credit only. Offered Yearly.
Prerequisites: May be taken concurrently: INF 6010 with a minimum grade of C and May be taken concurrently: INF 6080 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Information Sciences.
Equivalent: LDT 5140

INF 6510 Survey and Analysis of Current Literature for Children: PS-Grade 3 Cr. 3
Intensive examination of books appropriate for preprimary and primary school children. Analysis of the literary and extra-literary factors that affect the young child's experiences with fiction, nonfiction, and poetry. Offered for graduate credit only. Offered Fall.
Prerequisites: May be taken concurrently: INF 6010 with a minimum grade of C and May be taken concurrently: INF 6080 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Information Sciences.
Equivalent: RLL 7720

INF 6520 Survey and Analysis of Literature for Older Children: Grades 4-8 Cr. 3
Intensive examination of books appropriate for children in grades four through eight. Analysis of literary and extra-literary factors affecting the older child's experiences with fiction, nonfiction, and poetry. Offered for graduate credit only. Offered Winter.
Prerequisites: May be taken concurrently: INF 6010 with a minimum grade of C and May be taken concurrently: INF 6080 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Information Sciences.
Equivalent: RLL 7740

INF 6530 Young Adult Literature Cr. 3
Standards for evaluating adolescent literature. Selection of literature for individual pupils in relation to interest and reading ability. Use of classroom collections. Techniques for helping pupils read poetry, drama, and fiction. Offered for graduate credit only. Offered Spring/Summer.
Prerequisites: May be taken concurrently: INF 6010 with a minimum grade of C and May be taken concurrently: INF 6080 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Information Sciences.
Equivalent: EED 6310

INF 6780 Introduction to Records and Information Management Cr. 3
Management of information, including records creation, records inventory and appraisal, retention/disposition scheduling, filing systems, maintenance of inactive records, micrographics, vital records protection, and electronic impact on records management. Offered for graduate credit only. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Liberal Arts & Sciences or School of Information Sciences.
Equivalent: HIS 6780

INF 7040 Library Administration and Management Cr. 3
Library as an organization in various settings, functional diversification, staffing patterns, program planning, budgeting, performance evaluation, communication, and public relations. Core course. Offered Every Term.
Prerequisites: May be taken concurrently: INF 6080 with a minimum grade of C and May be taken concurrently: INF 6010 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Information Sciences.

INF 7050 Public Libraries Cr. 3
Development of concepts introduced in LIS 6010; history, organization and function of public libraries; development of skills necessary to public librarianship. Offered Yearly.
Prerequisites: May be taken concurrently: INF 7040 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Information Sciences.

INF 7060 Academic Libraries Cr. 3
Development of topics introduced in LIS 7040; history, organization, and function of the academic library within educational and research institutions; development of management and personnel concepts necessary to academic librarianship. Offered Fall.
Prerequisites: May be taken concurrently: INF 7040 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Information Sciences.

INF 7070 Special Libraries and Information Centers Cr. 3
History, organization, and functions of various types of special libraries and skills necessary to deliver a wide range of services. Offered Winter.
Prerequisites: INF 6120 with a minimum grade of C and INF 7040 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Information Sciences.

INF 7140 Advanced Reference Service Strategies Cr. 3
Information needs and seeking behaviors, reference interview techniques, and information literacy. Offered Fall.
Prerequisites: INF 6120 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Information Sciences.

INF 7160 Advanced Online Searching Cr. 3
Advanced topics in online searching using broad range of databases, including Internet resources. Topics include: sophisticated search strategies, competitive intelligence, retrieval and organization of citations. Offered Winter.
Prerequisites: INF 6120 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Information Sciences.

INF 7250 Programming and Services for Children and Young Adults Cr. 3
Principles and procedures for planning, managing and delivery of public library services to children and young adults. Offered Winter.
Prerequisites: INF 6080 with a minimum grade of C and INF 6010 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Information Sciences.

INF 7310 School Library Media Programs Cr. 3
Role of library media programs in the school; methods of planning, organizing, and operating such programs; impact of technology upon instruction and library service. Core course. Offered Every Other Year.
Prerequisites: INF 6010 with a minimum grade of C and INF 6080 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Information Sciences.

INF 7320 The Media Specialist as Teacher and Instructional Consultant Cr. 3
Instructional functions of the library media specialist in terms of integrating information processing skills in the curriculum through the instructional design process by working in partnership with teachers and applying the principles of teaching and learning theories. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Information Sciences.

INF 7340 Collection Development and Selection of Materials Cr. 3
Philosophy, principles and procedures for provision of materials and a collection that will meet the needs of the library's clientele. Concepts and procedures of community study, intellectual freedom, evaluation of materials, the use of selection aids, and an introduction to the publishing world. Offered Every Term.
Prerequisites: INF 6010 with a minimum grade of C and May be taken concurrently: INF 6080 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the School of Information Sciences.

INF 7370 Multicultural Information Services and Resources Cr. 3
Study of impact of cultural diversity on library services; development of relevant collections; effective interaction with a diverse community. Offered Winter.
Prerequisites: INF 6120 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Information Sciences.

INF 7410 Software Productivity Tools Cr. 3
Concepts and skills for application and use of productivity tools in contemporary information environment. Offered Yearly.
Prerequisites: INF 6080 with a minimum grade of C or May be taken concurrently: INF 6000 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Information Sciences.

INF 7415 Project Management Cr. 3
Identification of current information systems and problems, determination and definition of information needs and requirements, evaluation of alternative solutions. Offered Winter.
Prerequisites: INF 7040 with a minimum grade of C or May be taken concurrently: INF 6000 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Information Sciences.

INF 7420 Website Development Cr. 3
Use of Internet protocols (ftp, telnet, smtp, http, gopher), location of Internet resources for library reference and research uses, construction of World Wide Web resources using HTML and successor technologies. Offered Every Term.
Prerequisites: INF 6080 with a minimum grade of C or May be taken concurrently: INF 6000 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Information Sciences.

INF 7430 Building Web-Based Information Services Cr. 3
Principles of systems administration, file server supervision and local networks, and Internet and the World Wide Web management for library, information science, and archival environments. Offered Fall.
Prerequisites: INF 6080 with a minimum grade of C or May be taken concurrently: INF 6000 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Information Sciences.

INF 7435 Integrated Library Systems Cr. 3
Practical experience with common Integrated Library Systems; understanding the role of ILS in function of the information organization. Extensive use of computing facilities. Offered Spring/Summer.
Prerequisites: INF 6210 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Information Sciences.

INF 7440 Scripting Languages Cr. 3
Basic skills in using scripting languages to program and manipulate data structures for text information in library applications such as databases and websites. Offered Winter.
Prerequisites: INF 6080 with a minimum grade of C or May be taken concurrently: INF 6000 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Information Sciences.

INF 7460 Database Concepts Cr. 3
Fundamentals of database design and basics of database implementation; focus on library and information science practice. Related and current database management technologies used in hands-on experiences. Offered Yearly.
Prerequisites: INF 6080 with a minimum grade of C or May be taken concurrently: INF 6000 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Information Sciences.

INF 7470 Information Architecture Cr. 3
Dissemination of information that affects context, content and user. Associations with website development; use in technical writing, presentation preparation, report generation. Offered Winter.
Prerequisites: INF 6080 with a minimum grade of C or May be taken concurrently: INF 6000 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Information Sciences.

INF 7490 Competitive Intelligence and Data Mining Cr. 3
Use of multidimensional databases, competitive intelligence and visualization software, data mining tools; access to disparate information sources to support and provide a structure for fact-based decision making. Offered Fall.
Prerequisites: INF 6080 with a minimum grade of C or May be taken concurrently: INF 6000 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Information Sciences.

INF 7491 Data Analytics Cr. 3
Key areas of information analytics used by data librarians: quantitative statistics, computer simulation, and data mining tools/techniques. Offered Yearly.
Prerequisites: INF 6080 with a minimum grade of C or May be taken concurrently: INF 6000 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Information Sciences.

INF 7492 Information Visualization Cr. 3
Analysis of large data sets and drawing insights through use of information technology tools, statistical techniques, charts and graphs. Offered Yearly.
Prerequisites: INF 6080 with a minimum grade of C or May be taken concurrently: INF 6000 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Information Sciences.

INF 7500 Information Behavior Cr. 3
Totality of human behavior in relation to sources and channels of information. Information needs and barriers; information seeking, use and dissemination; information poverty and information overload; topics studied in variety of contexts. Offered Fall.
Prerequisites: INF 6080 with a minimum grade of C or May be taken concurrently: INF 6000 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Information Sciences.

INF 7610 Health Sciences Information Services and Resources Cr. 3
First in series of three courses, designed to provide students with skills necessary to become health sciences librarians. Offered Every Other Year.
Prerequisites: INF 6120 with a minimum grade of C and INF 6210 with a minimum grade of C or May be taken concurrently: INF 6000 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Information Sciences.

INF 7620 Introduction to Health Informatics and E-Science Cr. 3
Overview of health informatics and e-science, and critical role of health information technologies to enhance quality healthcare. Offered Winter.
Prerequisites: INF 6080 with a minimum grade of C or May be taken concurrently: INF 6000 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Information Sciences.

INF 7645 Practicum: Urban Librarianship Cr. 6
On-site experience in an urban library under direction of professional librarian and supervision of faculty member. Theory and competencies relevant to the environment. Seminars to be arranged. Offered Every Term.
Prerequisites: INF 6010 with a minimum grade of B and INF 6080 with a minimum grade of B
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Information Sciences.

INF 7710 Archival Administration Cr. 3
Basic training in archival methods. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Liberal Arts & Sciences or School of Information Sciences.
Equivalent: HIS 7840

INF 7730 Administration of Audio Visual Collections Cr. 3
Basic course in the fundamentals of administering a visual collection: evaluation, organization, and control of visual collections in archives, librarians, historical agencies, and museums. Offered Winter.
Prerequisites: INF 7710 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Liberal Arts & Sciences or School of Information Sciences.
Equivalent: HIS 7890

INF 7740 Archives and Libraries in the Digital World Cr. 3
Overview of electronic tools and the role of digital process in libraries and archives. Offered Every Other Year.
Prerequisites: INF 6010 with a minimum grade of C or INF 7710 with a minimum grade of C or HIS 7840 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Liberal Arts & Sciences or School of Information Sciences.
Equivalent: HIS 7745

INF 7750 Introduction to Archival and Library Conservation Cr. 3
Fundamentals of archival and library conservation problems and methods essential for effective preservation management of paper and associated materials. Offered Every Other Year.
Prerequisites: INF 6010 with a minimum grade of C or INF 7710 with a minimum grade of C or HIS 7840 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Liberal Arts & Sciences or School of Information Sciences.
Equivalent: HIS 7810

INF 7770 Oral History: A Methodology for Research Cr. 3
Techniques of gathering data from individuals for use in research, classroom teaching, historical, cultural or other contexts. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Liberal Arts & Sciences or School of Information Sciences.
Equivalent: HIS 7860

INF 7780 Description and Access for Archives Cr. 3
Investigation of description of archival materials emphasizing the electronic technologies and standard practices. Offered Yearly.
Prerequisites: May be taken concurrently: INF 7710 with a minimum grade of C or HIS 7840 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Liberal Arts & Sciences or School of Information Sciences.
Equivalent: HIS 7820

INF 7790 History of Books, Printing, and Publishing Cr. 3
Development of writing, the alphabet, early materials, manuscripts, paper making, invention and spread of printing, famous presses, modern methods of print and electronic production. The book as artistic output of the culture and part of the world in which it was produced. Offered Yearly.
Prerequisites: INF 6010 with a minimum grade of C and INF 6080 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Information Sciences.

INF 7850 Issues in Librarianship Cr. 1-3
Critical analysis of library research, socio-technological trends, implications for the profession. Topics to be announced in Schedule of Classes. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 9 Credits

INF 7880 Instructional Methods for Librarians Cr. 3
Introduction to library instruction, bibliographic instruction, information literacy, or user education for those expected to provide library instruction to clients. Offered Yearly.
Prerequisites: INF 6120 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Liberal Arts & Sciences or School of Information Sciences.

INF 7885 Administration of Historical Agencies Cr. 3
The operation of public and private historical agencies, archives and museums. Determination of agency priorities, problems of staffing and finance, governmental regulations, community relations, and professional ethics. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Liberal Arts & Sciences or School of Information Sciences.
Equivalent: HIS 7880

INF 7900 Digital Libraries Cr. 3
Critical issues, theoretical and practical principles of digital libraries. Offered Yearly.
Prerequisites: INF 6010 with a minimum grade of C and INF 6080 with a minimum grade of C and INF 6120 with a minimum grade of C and INF 6210 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Information Sciences.

INF 7910 Metadata in Theory and Practice Cr. 3
Theoretical and practical principles of metadata used to provide access to digital objects online. Offered Yearly.
Prerequisites: INF 6010 with a minimum grade of C and INF 6080 with a minimum grade of C and INF 6120 with a minimum grade of C and INF 6210 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Information Sciences.

INF 7920 Digital Curation and Preservation Cr. 3
Theoretical principles and practical aspects of digital curation and preservation within libraries, museums, archives and other institutions administering data and digital content. Offered Yearly.
Prerequisites: INF 6210 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Information Sciences.

INF 7940 Human-Computer Interaction Cr. 3
Interactions between human beings and computer technologies through usability evaluations and user experience design. Offered Fall.
Prerequisites: INF 6080 with a minimum grade of C or May be taken concurrently: INF 6000 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Information Sciences.

INF 7950 Practicum: Library Services Cr. 3
Practical experience with digital content under direction of professional librarian and supervision of faculty member. Theory and competencies relevant to the environment. Seminars to be arranged. Offered Yearly.
Prerequisites: 9 credits from INF 6000-9999, LIS 6000-9999 and INF 6010 with a minimum grade of C and INF 6080 with a minimum grade of C and INF 6120 with a minimum grade of C and INF 6210 with a minimum grade of C and INF 7040 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Information Sciences.

INF 7960 Practicum: Information Management Cr. 3
Practical experience with technology-based information management under direction of information professional and supervision of a faculty member. Theory and competencies relevant to the project activities. Seminars to be arranged. Students are eligible to enroll in their last semester. Offered Every Term.
Prerequisites: INF 6080 with a minimum grade of C or May be taken concurrently: INF 6000 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Information Sciences.

INF 7970 Practicum: Archives Cr. 3
On-site experience in archival center under direction of professional librarian or archivist and supervision of faculty member. Theory and competencies relevant to the environment. Offered Winter, Spring/Summer.
Prerequisites: 2 of INF 6780, INF 7730, INF 7740, INF 7750, INF 7770, INF 7885 and INF 7710 with a minimum grade of C and INF 7780 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Liberal Arts & Sciences or School of Information Sciences.
Equivalent: HIS 7685

INF 7975 Practicum: Digital Content Cr. 3
Practical experience with digital content under direction of professional librarian and supervision of faculty member. Theory and competencies relevant to the environment. Offered Every Term.
Prerequisite: INF 7900 with a minimum grade of C and INF 7910 with a minimum grade of C and INF 7920 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Information Sciences.
Repeatable for 6 Credits

INF 7980 Practicum: School Media Cr. 2-3
On-site experience in school library media/information center under direction of professional librarian and supervision of faculty member; theory and competencies. Seminars to be arranged. Offered Every Term.
Prerequisites: 9 credits from INF 6000-9999, LIS 6000-9999 and INF 6120 with a minimum grade of C, INF 6210 with a minimum grade of C, and INF 7310 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Information Sciences.

INF 7990 Research and Directed Study Cr. 1-8
Directed study and individual research under faculty guidance. Offered Every Term.
Prerequisites: INF 6010 with a minimum grade of C and INF 6080 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Liberal Arts & Sciences or School of Information Sciences.
Repeatable for 8 Credits

INF 7996 Research for the Information Profession Cr. 3
Role of research in development of the profession. Research methods; analysis and evaluation of research reports. Core course. Offered Every Term.
Prerequisites: INF 6120 with a minimum grade of C and INF 6210 with a minimum grade of C or May be taken concurrently: INF 6000 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Information Sciences.

INF 8000 Seminar in Information Policy Cr. 3
How information policies improve or set constraints on the goals and objectives of libraries and other information organizations. Effect of policies on interpersonal and financial quality of communities. Economic, technical, and ethical policy questions. Offered Yearly.
Prerequisites: INF 6080 with a minimum grade of C or May be taken concurrently: INF 6000 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Information Sciences.

INF 8120 Legal Information Resources and Services Cr. 1
Characteristics of legal literature, including federal, state and administrative law; structure of U.S. court system and its publications; introduction to legal databases; special problems in legal reference service and administration; selection and use of basic tools in legal research. Offered Intermittently.
Prerequisites: INF 6120 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Information Sciences.

INF 8410 Topics in Information Management Cr. 1-3
Current topics affecting information management systems and services. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 9 Credits

INF 8998 Specialist's Research Seminar Cr. 3
Advanced research methods and application. Offered Spring/Summer.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Information Sciences.

ISM - INFORMATION SYSTEMS MANAGEMENT

ISM 3630 Business Information Systems Cr. 3
Introductory information systems management course, which establishes a foundation for understanding the value of information systems in organizations. Provides a management-oriented study of computer-based information systems in organizations and an overview of the manner in which information systems and technology supports business processes, managerial decision-making, and organizational strategy. Offered Every Term.
Restriction(s): Enrollment limited to students in the School of Business.

ISM 4500 Business Co-op Assignment Cr. 0
Provides students with practical application of theory to on-the-job experience. Students must be admitted to the University's Cooperative Education Program during the work semester that the course is to be taken. Students will normally be assigned to a cooperating business organization for internship periods of one semester. Offered Yearly.
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

ISM 4575 IT Security Cr. 3
Provides an investigation of contemporary issues in computer security. Students are exposed to the spectrum of security activities, procedures, and methodologies. Topics include: inspection and protection of information assets; detection of and reaction to threats to information assets; examination of pre- and post-incident procedures, and technical and managerial responses; and an overview of information security planning and staffing functions. Offered Yearly.
Prerequisite: ISM 3630 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

ISM 4990 Directed Study in Information Systems Management Cr. 1-3
Provides the student with the opportunity to focus on advanced readings, projects (e.g., tutorials, certifications), and research in a particular area of information systems management that is of interest to the student and faculty member. Offered Every Term.
Prerequisites: ISM 3630 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

ISM 5200 ERP Systems: Concepts and Practice Cr. 3
Discusses the role and function of ERP systems within organizations; analyzes the major business processes in their organization and their implementation using ERP software; provides hands-on use of ERP tools for transaction processing and decision support; and describes the use of ERP systems for customer relationship management (CRM), supply chain management (SCM), and electronic commerce. Offered for undergraduate credit only. Offered Winter.
Prerequisites: ACC 3010 with a minimum grade of C and ACC 3020 with a minimum grade of C and ISM 3630 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.
Course Material Fees: $117
Equivalent: ACC 5200

ISM 5210 Blockchain Fundamentals for Accounting and Business Cr. 3
Introduces blockchain, which is a public, transparent, secure, immutable and distributed ledger. Blockchains can be used to record and transfer any digital asset, not just currency. Progressing from a detailed study of how blockchain works in Bitcoin; this course also discusses alternative blockchain platforms; potential uses of blockchain in accounting, other areas of business, and society; and this technology's potential impact on accounting systems, business transactions, financial services, government, and banking management. This course is taught completely online. Offered Spring/Summer.
Prerequisite: ACC 3010 with a minimum grade of C and ACC 3020 with a minimum grade of C
Equivalent: ACC 5210

ISM 5530 Ethics in Information Technology Cr. 3
An awareness of the wider social, legal and ethical issues of information technology. Relationship between technological change, society and the law. Student is introduced to legal issues such as intellectual property and liability for defective software. Offered for undergraduate credit only. Offered Yearly.
Prerequisites: May be taken concurrently: ISM 3630 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.
Equivalent: ISM 7530

ISM 5560 Survey of e-Commerce Cr. 3
Provides an introduction to electronic commerce. Topics include: e-commerce scope, business-to-business (B2B) and business-to-consumer (B2C) activities; supporting software, hardware, networking, security technologies; readings and online discussions. Offered for undergraduate credit only. Offered Yearly.
Prerequisite: ISM 3630 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

ISM 5570 Data Mining and Analytics Cr. 3
Focuses on developing techniques to analyze large datasets and using techniques, algorithms, and software to automate the analysis and exploration of those datasets. Covers the methodology, major software tools, and applications in the data mining and analytics field. Offered for undergraduate credit only. Offered Yearly.
Prerequisite: ISM 3630 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.
Course Material Fees: $16

ISM 5670 Special Topics in Information Systems Cr. 3
Topics range from JAVA to digital video creation and analytics. Offered for undergraduate credit only. Offered Intermittently.
Prerequisite: ISM 3630 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.
Repeatable for 6 Credits

ISM 5705 Inbound Information Technology Cr. 3
Provides insights and practical guidelines to help students learn how to create an appealing and engaging digital presence for businesses. The discussion focuses on topics relevant to planning, managing, and implementing on-line and social media interactivity such as: search engine organization (SEO), inbound links, page ranking, tagging content, pillaring content, publishing content, analytic reports, blogging, tweeting and other social media. Offered for undergradute credit only. Offered Fall.
Prerequisites: ISM 3630 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.
Course Material Fees: $50

ISM 5820 Systems Analysis and Design Cr. 3
Presents a structured and formal approach to information systems development. Analysis, logical requirements specification, general and detailed design, control, and implementation of information systems are discussed. Offered for undergraduate credit only. Offered Every Term.
Prerequisites: ISM 3630 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

ISM 5860 Data Communications and Networks Cr. 3
Data communication concepts and terminology, communication system design approaches, data communications standards, data communications software and hardware, network architecture, distributed management information systems. Offered for undergraduate credit only. Offered Yearly.
Prerequisite: ISM 3630 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.
Course Material Fees: $13

ISM 5890 Internship in Information Systems Cr. 3
Student performs assigned tasks and responsibilities in a professional manner under supervision of host-employer for a minimum of 160 hours during the semester, abiding by the rules and regulations established by the employer and expected by all employees; student must satisfactorily complete all course requirements outlined in the internship program for the School of Business Administration. Offered for undergraduate credit only. Offered Every Term.
Prerequisites: ISM 3630 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

ISM 5900 Project Management Cr. 3
Understanding and appreciation of the different knowledge areas of project management. Insight into developing the inputs, tools, techniques, and outputs to successfully manage products. Offered for undergraduate credit only. Offered Yearly.
Prerequisites: ISM 3630 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.
Equivalent: MGT 5900

ISM 5992 Database Systems Cr. 3
Details the importance of data in today's enterprise and describes the theories, models, and techniques for designing, developing, creating, and manipulating a database. Students will practice data modeling, physical database design, database implementation, and complete introductory SQL exercises. Offered for undergraduate credit only. Offered Yearly.
Prerequisites: ISM 3630 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.
Course Material Fees: $13

ISM 5994 Software Tools for Business Applications Cr. 3
Introduces the student to the use of the Internet to create a digital presence. Students design and develop websites, create responsive web pages to provide an optimal viewing experience, and integrate database functionality allowing all web pages to "know" who is looking at the information using HTML, Javascript, Hubl, HubDB, Wistia, and cascading style sheets (CSS). Smart design includes content complete with video, progressive forms, and focused calls-to-action. Offered for undergraduate credit only. Offered Yearly.
Prerequisite: ISM 3630 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.
Course Material Fees: $13

ISM 6997 Information Systems Policy and Management Cr. 3
Within the overall structure of the systems approach, this capstone course integrates the managerial, technical, and strategic planning and control concepts developed throughout the undergraduate courses. It also focuses on the concepts and methodologies necessary for management of information systems projects. Offered for undergraduate credit only. Offered Yearly.
Prerequisites: ISM 3630 with a minimum grade of C and ISM 5820 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

ISM 7290 Blockchain: An Accounting and Business Perspective Cr. 3
Introduces blockchain: a public, transparent, secure, immutable, and distributed ledger. Blockchains can be used to record and transfer any digital asset, not just currency. The course covers the workings, applications, and potential impact of this revolutionary technology. Offered Fall.
Prerequisite: BA 7000 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

ISM 7500 Business Information Systems Cr. 2
Teaches students how IT can influence, support, and advance organizational operations, performance, and decision making. The course will also teach students, as mangers or employees, how to effectively define their information needs and utilize IT to increase their effectiveness. No credit after ISM 4630 or ACC 6070. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Graduate level students.

ISM 7505 Information Analytics: Inbound Information Technology Cr. 3
The evolving cyberspace organization. Insights and practical guidelines to create an appealing and engaging digital presence. Discussion focuses on topics relevant to planning, managing, and implementing online and social media interactivity such as search engine organization (SEO), inbound links, blogging, page ranking, tagging content, tweeting, publishing content, analytic reports, and social media. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $113

ISM 7507 Application Development with Swift Cr. 3
Establishes a foundation for understanding the value of mobile applications in the enterprise and how to design, create, and publish mobile applications for the Apple iOS using Swift and Xcode. These tools allow you to quickly develop a mobile application so you can focus your energy on your design. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $115

ISM 7508 Application Development on Android Cr. 3
Establishes a foundation for understanding the value of mobile applications in the enterprise, and how to design, create, and publish mobile applications for the Android OS using MIT's App Inventor. This tool allows the user to quickly develop a mobile application using building blocks, so energy can be focused on design and not on programming language syntax. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.

ISM 7510 Database Management Cr. 3
Overall examination of database management and knowledge management systems. Theories, models, and techniques for designing, developing, understanding, utilizing and creating competitive advantage through database systems. Topics include data modeling, logical and physical database design, strategic value of data, introductory SQL, knowledge management, and emerging database technologies. No credit after ISM 5993. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $13

ISM 7512 Digital Video Creation and Analytics Cr. 3
Helps users to shoot professional looking video to post on YouTube or another website, and to analyze the video's impact. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.

ISM 7520 Information Systems Design Cr. 3
Non-technical course in how to use information systems to add value to an organization. Use of system analysis techniques to study and identify information needs of organizations and integration of IT specialists and manager-users. Topics include: IT and organizational design, inter-networking infrastructure, organization and leading the IT function. How information systems professionals link MIS to specific business operations and objectives to increase value; how managers may use information systems to support activities and increase individual productivity. No credit after ISM 5820. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.

ISM 7530 Societal and Ethical Issues in the Information Age Cr. 3
Issues such as computer crime, privacy, copyrighting of software; other ethical issues related to use of business systems and information systems. No credit after ISM 5530. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.

ISM 7560 Survey of E-Commerce Cr. 3
Introduction to electronic commerce: scope, business-to-business and business-to-consumer activities; supporting software, hardware, networking, security technologies; readings and online discussions. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.

ISM 7570 Data Mining Cr. 3
Tools and techniques used to analyze large data bases; hands-on approach to common techniques. Emphasis on application of data mining to problems in marketing, finance, and other business disciplines. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $16

ISM 7575 Corporate Computer Networks and IT Security Cr. 3
Broad selection of contemporary issues in computer security. Security activities, methods, methodologies, and procedures including inspection and protection of information assets, detection of and reaction to threats to information assets, and examination of pre- and post-incident procedures, technical and managerial responses, and an overview of the Information Security Planning and Staffing functions. Includes many topics for Security+ exam by CompTIA. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Business.

ISM 7890 Internship in Information Systems and Management Cr. 1-3
Students work a minimum of 160 hours for fifteen weeks in an entry-level management position in information systems. Offered Yearly.
Prerequisites: ISM 7500 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Business.
Repeatable for 3 Credits

ISM 7900 Project Management Cr. 3
Management of resources (budget, personnel, materials, etc.) within the scope of a given project; understanding and appreciation for the different knowledge areas of project management; insight into identification of inputs, tools, and techniques of project management. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: MGT 7900

ISM 7994 Digital Content Development Cr. 3
Development of responsive, smart, and personalized web sites using leading web development tools and technologies. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.

ISM 7995 Directed Study in Information Systems and Management Cr. 1-3
Advanced independent readings and research under supervision of a graduate faculty member in areas of special interest to student and faculty member. Offered Yearly.
Prerequisites: ISM 7500 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Business.

ISM 7996 Principles for Customer Relationship Management Cr. 3
Investigation of the antecedents and consequences of implementing a customer-relationship management strategy. The course will provide students with insight on: What CRM and its conceptual foundations are; How CRM forces the interaction between corporate strategy, organizational structure, supply chain, and customer facing front end; The role of measuring and managing customer satisfaction, customer loyalty and customer profitability; Hands-on application with salesforce.com. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $75

ISM 8000 Seminar in Information Systems and Management Cr. 3
Current developments and emerging trends. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.

ITA - ITALIAN

ITA 1010 Beginning Italian I Cr. 4
Introduction to Italian language and its culture through exposure to authentic materials and interactive activities; developing communicative reading, writing, listening, and speaking skills and cultural proficiency. No experience with Italian is needed. Offered Every Term.
Course Material Fees: $5

ITA 1020 Beginning Italian II Cr. 4
Continuation of ITA 1010. Strengthening communicative skills (reading, writing, speaking, and listening) and expanding cultural understanding and proficiency through exposure to authentic materials and interactive activities. Offered Every Term.
Prerequisites: ITA 1010 with a minimum grade of D-
Course Material Fees: $5

ITA 2010 Intermediate Italian Cr. 4
Satisfies General Education Requirement: Foreign Culture, Global Learning Inquiry
Refining communicative skills (reading, writing, speaking, and listening) and cultural proficiency through extensive exposure to authentic sources, material, and interactive activities. Completion of this course fulfills the General education requirement for foreign language and culture. Offered Every Term.
Prerequisites: ITA 1020 with a minimum grade of D-
Course Material Fees: $5

ITA 2020 Italian through Film Cr. 3
Increasing communicative abilities and cultural proficiency through study and analysis of Italian films, readings including contemporary news and fiction, and more interactive activities. Offered Yearly.
Prerequisites: ITA 2010 with a minimum grade of D-
Course Material Fees: $5

ITA 2700 Anguish and Commitment: European Existentialist Literature Cr. 3-4
Satisfies General Education Requirement: Cultural Inquiry, Philosophy Letters
A team-taught interdisciplinary study in English of representative works by European existentialist writers: Dostoevsky, Hesse, Kafka, Pirandello, Sartre, Camus and Unamuno. Offered Every Other Year.
Equivalent: FRE 2700, GER 2700, SPA 2700

ITA 2710 Italy and Italians I Cr. 3
Satisfies General Education Requirement: Cultural Inquiry, Civ and Societies (CLAS only), Foreign Culture, Global Learning Inquiry
Overview of development of Italian culture and civilization from their origins to 1500; emphasis on those aspects that prepared the political, social, cultural and intellectual groundwork of Humanism and the Renaissance. Taught in English. Offered Yearly.

ITA 2720 Italy and Italians II Cr. 3
Satisfies General Education Requirement: Cultural Inquiry, Civ and Societies (CLAS only), Foreign Culture, Global Learning Inquiry
Overview of Italian culture and civilization from 1500 to 1947: the Renaissance, Italian contributions to science, Unification of Italy, the Fascist era, the new republic. Taught in English. Offered Yearly.

ITA 2991 Italian Fairy Tales Cr. 3
Satisfies General Education Requirement: Cultural Inquiry, Global Learning Inquiry
Introduction to the interdisciplinary context of major Italian tales and other European fairy tales traditions, emphasizing their transformation from oral and literary form into film, animation, opera, ballet, art, and music. All lectures and readings in English. Offered Fall.

ITA 3030 Road to Italy Cr. 3
Study and in-depth analysis of the Italian language and its cultural daily life. An interactive and highly communicative understanding of art, literature, music, cinema, food, media and TV, sport and leisure activities. Offered Yearly.
Prerequisites: ITA 2010 with a minimum grade of D-

ITA 3040 Business Italian Cr. 3
Understanding and developing basic business terminology, while studying style and etiquette for the Italian business world. Students will also learn how to write business correspondence in Italian. Offered Every Other Year.
Prerequisites: ITA 2010 with a minimum grade of D-

ITA 3100 Caffe Italia Cr. 3
Enhancing speaking, reading, and listening skills through debates, discussions and presentations on current events and topics. Offered Every Term.
Prerequisites: ITA 2020 with a minimum grade of D-

ITA 3200 Italian Rebels Cr. 3
A journey through forty years of turbulent Italian contemporary history. Through readings, songs of protest, epic film, and more, this course will strengthen and enhance the cultural and linguistic knowledge of contemporary Italy and Italians, focusing on formal and informal writing and research skills. Offered Every Other Year.
Prerequisites: ITA 2020 with a minimum grade of D-

ITA 3300 Science, History, and Culture of Italian Cuisine Cr. 3
Satisfies General Education Requirement: Cultural Inquiry, Global Learning Inquiry
Explores the science, history, and culture of Italian food and the Mediterranean Diet, and how Italian food culture has evolved throughout the centuries. Taught in English. Offered Yearly.
Equivalent: NFS 3300

ITA 3500 Dante in Translation: The Divine Comedy Cr. 3
An introduction to Dante and his cultural milieu through a critical reading of selected cantos of the Divine Comedy, and selected passages of Dante's minor works. Offered Yearly.

ITA 4610 The Birth of Italian Language and Literature Cr. 3
A journey in Italian literature and culture, from Marco Polo and the birth of the Italian language to the controversial writings of Galileo Galilei. Offered Yearly.
Prerequisites: ITA 2020 with a minimum grade of D-

ITA 4620 The Birth of Italy Cr. 3
A study of the formation of Italy through its literature and culture, from the Enlightenment to the contemporary period. Offered Yearly.
Prerequisites: ITA 2020 with a minimum grade of D-

ITA 5000 Minor Language Practicum Cr. 3
Controlled application of active language skills for students electing a Ph.D. minor in Italian. No degree credit toward the Ph.D. Offered for graduate credit only. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 9 Credits

ITA 5150 Italian Cinema Cr. 3
Concentrated study of specific trends or the development of individual directors. Topics to be announced in Schedule of Classes . Offered Every Other Year.
Course Material Fees: $10
Repeatable for 9 Credits

ITA 5200 Italian Theater Workshop Cr. 3
A study of Italian language, including verbal expression, pronunciation, phonetics, listening exercises, and gestures in the applied context of theater performance. Offered Every Other Year.
Prerequisites: ITA 3100 with a minimum grade of D-

ITA 5570 Topics in Italian Studies Cr. 3
In-depth study of author or group of authors, genre, historic period, or particular literary or cultural movement. Topics to be announced in Schedule of Classes. Offered Every Other Year.
Prerequisites: ITA 4610 with a minimum grade of D- and ITA 4620 with a minimum grade of D-
Repeatable for 9 Credits

ITA 5990 Directed Study Cr. 1-4
Offered Every Term.
Repeatable for 8 Credits

ITA 5993 Writing Intensive Course in Italian Cr. 0
Satisfies General Education Requirement: Writing Intensive Competency Disciplinary writing assignments under the direction of a faculty member. Must be selected in conjunction with designated corequisite; see section listing in Schedule of Classes for corequisites available each term. Satisfies the University General Education Writing Intensive Course in the Major requirement. Required for all majors. Offered Fall, Winter.
Prerequisites: May be taken concurrently: ITA 3000-3999 or ITA 6000-6999 or AFS 2390 with a minimum grade of C or ENG 2390 with a minimum grade of C or ENG 3010 with a minimum grade of C or ENG 3020 with a minimum grade of C or ENG 3050 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students.

ITA 5999 Internship in Italian Studies Cr. 3
Internship in a public or private organization related to Italian studies. Offered for undergraduate credit only. Offered Every Term.
Prerequisite: ITA 3040 with a minimum grade of C- or ITA 3100 with a minimum grade of C- or ITA 3200 with a minimum grade of C-
Restriction(s): Enrollment is limited to students with a major, minor, or concentration in Italian or Italian Honors.

ITA 6400 Languages of Italy Cr. 3
A study of the Italian language and its dialects from early years to present. Representative texts from various periods will explore Italy's diverse linguistic landscape. Offered Every Other Year.

ITA 6500 Introduction to Literary Criticism Cr. 3
Overview of various currents of critical theory, focusing on literary and cinematographic texts. The two-fold pedagogical approach, theoretical and empirical, will use semiotics as a disciplinary tool of analysis and apply it to the textual material studies in this course. Offered Intermittently.

ITA 6610 Dante's Comedy I: Inferno Cr. 3
A close reading of Dante's Inferno with attention to sources, background, and interpretation. Offered Every Other Year.
Prerequisite: ITA 3200 with a minimum grade of D-
Repeatable for 6 Credits

ITA 6620 Dante's Comedy II: Purgatory and Paradise Cr. 3
A close reading of Dante's Purgatory and Paradise with attention to sources, background, and interpretation. Offered Every Other Year.
Prerequisite: ITA 6610
Repeatable for 6 Credits

ITA 6680 Love, Politics and the Art of Elegance Cr. 3
A study of major contributions of the Italian Renaissance that shaped modern thought with a special focus on the art of elegance, effortless mastery, love, and politics. Offered Every Other Year.
Prerequisites: ITA 4610
Repeatable for 12 Credits

ITA 6690 Italian Love Sickness Cr. 3
A close study of major Baroque works that shaped ideas of love, the phenomenon of love sickness, and the scientific remedies for it. Offered Every Other Year.
Prerequisites: ITA 4610

ITA 6700 Performing Italy Cr. 3
A study of Italian theater, music, and opera, with a particular focus on the eighteenth century. Offered Every Other Year.
Prerequisites: ITA 4620
Repeatable for 9 Credits

ITA 6800 Imagining Italy, Creating Italians Cr. 3
A study of the literature, culture, and history of the period of Italian unification. Offered Every Other Year.
Prerequisites: ITA 4620
Repeatable for 9 Credits

ITA 6870 Modern Italy in Transition Cr. 3
A study of transformation, change, and crisis in Italy and its modernist art and literature, focusing on the period from the late 1800s through the early 1900s. Offered Every Other Year.
Prerequisites: ITA 4620
Repeatable for 9 Credits

ITA 6900 Contemporary Italian Culture Cr. 3
Study of contemporary Italian culture, including literature, film, and other media. Offered Every Other Year.
Prerequisites: ITA 4620
Repeatable for 9 Credits

ITA 7010 Introduction to Literary Theory Cr. 3
Graduate-level introduction to key critical perspectives, theories, problems, and questions that have informed the discussions and analyses of twentieth- and twenty-first-century literary and cultural scholars. Specific theoretical paradigms used to determine the task of textual interpretation, locate the limits of each approach, trace the emergence of subsequent theoretical paradigms, and think about how such theories might or might not be relevant in the study of specific texts. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: CLA 7010, FRE 7010, GER 7010, NE 7010, SLA 7010, SPA 7010

ITA 7996 Research Project Cr. 1-4
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 12 Credits

ITA 7999 Master's Essay Direction Cr. 1-3
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students with a class of Candidate Masters.

ITA 8999 Master's Thesis Research and Direction Cr. 1-8
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students with a class of Candidate Masters.
Repeatable for 8 Credits

JPN - JAPANESE STUDIES

JPN 1010 Elementary Japanese I Cr. 4
Introduction to written and spoken Japanese. Offered Every Term.
Course Material Fees: $5

JPN 1020 Elementary Japanese II Cr. 4
Continuation of JPN 1010. Offered Every Term.
Prerequisites: JPN 1010 with a minimum grade of D-
Course Material Fees: $5

JPN 2010 Intermediate Japanese I Cr. 4
Satisfies General Education Requirement: Foreign Culture, Global Learning Inquiry
Continuation of JPN 1020. Focus on language and Japanese culture. Offered Every Term.
Prerequisites: JPN 1020 with a minimum grade of D-
Course Material Fees: $5

JPN 2020 Intermediate Japanese II Cr. 4
Continuation of JPN 2010. Language and culture learned through situational activities with tasks to develop language proficiency. Enhancement of Kanji (ideograph writing system) learning to help students develop higher reading proficiency. Offered Winter.
Prerequisites: JPN 2010 with a minimum grade of D-
Course Material Fees: $5

JPN 2110 Listening Japanese with Media and Animation Cr. 3
Development of listening skills using Japanese media, animation, and movies. Offered Intermittently.
Prerequisites: JPN 1020 with a minimum grade of D-

JPN 2710 Japanese Culture Cr. 3
Survey of Japanese culture from its beginning to the present day. Japanese thought, religion, art, society, literature, films. Offered Fall.

JPN 2720 Japanese Culture through Myth, Fairy Tales, and Media Cr. 3
Satisfies General Education Requirement: Cultural Inquiry, Global Learning Inquiry
Introduces Japanese philosophy, beliefs, values, and cultural heritage through a broad survey of Japanese fairy tales and media forms (cinema, TV drama, and Anime). Through the analysis of these different texts, students will consider questions related to Japanese identity, culture, communication styles, and politics, reflecting in particular on questions of space, place, and the environment. Ethnographic approaches will be also introduced. Offered Spring/Summer.

JPN 2800 Culture Studies in Japan (Homestay and Study Abroad Tour) Cr. 3
Satisfies General Education Requirement: Cultural Inquiry
Survey of Japanese culture taught in English. Introduction of family and group organization, customs, pop culture (fashion/music/films), aspects of daily lives (thought/religion/arts/society), and a brief modern history. Also, survival language practice. Offered Spring/Summer.
Prerequisites: JPN 1010 with a minimum grade of D-
Equivalent: ASN 2800

JPN 3010 Advanced Japanese I Cr. 3
Introduction to high intermediate grammar. Three thematic units: body and health; life and careers; communication and media. Emphasis on communication for business. Offered Yearly.
Prerequisites: JPN 2020 with a minimum grade of D-

JPN 3020 Advanced Japanese II Cr. 3
Introduction to language pertinent to media communication, using written, visual, and/or audio materials. Offered Yearly.
Prerequisites: JPN 3010 with a minimum grade of D-

JPN 3030 Japanese Reading and Writing Cr. 3
Various writing styles. Emphasis on expanding the vocabulary and Kanji characters. Offered Yearly.
Prerequisites: JPN 3010 with a minimum grade of D-

JPN 3540 Intensive Japanese Cr. 4-6
Introduction to the linguistic patterns, sound system, and writing system of the Japanese language. Open only to JCMU Study Abroad Students. Offered Fall, Winter.
Repeatable for 12 Credits

JPN 3990 Directed Study Cr. 1-6
Directed study tailored to student and faculty interests and specializations. Offered Every Term.
Repeatable for 6 Credits

JPN 4010 Business Japanese I Cr. 3
Expansion of vocabulary and grammar knowledge especially used for business settings. Acquisition of business language and etiquette, role-playing of conversation patterns, reading business memos and documents. Classes are all task-oriented for business. (Basic.) Offered Yearly.
Prerequisites: JPN 3020 with a minimum grade of D-

JPN 4550 Japanese Culture and Society I Cr. 4
Satisfies General Education Requirement: Foreign Culture, Global Learning Inquiry
Examination of significant social institutions and cultural aspects of modern Japanese society, including their historical development. Open only to JCMU Study Abroad Students. Offered Fall.

JPN 4560 Japanese Culture and Society II Cr. 4
Satisfies General Education Requirement: Foreign Culture, Global Learning Inquiry
Significant social institutions and cultural aspects of modern Japanese society, including their historical development. Open only to JCMU Study Abroad Students. Offered Winter.

JPN 4850 Studies in Japanese Culture Cr. 4
Selected topics, themes, subjects on modern Japanese society, to be announced in Schedule of Classes. Offered Fall, Winter.
Repeatable for 8 Credits

JPN 5220 Languages of Asia Cr. 3
Introduction to major language families in Asia; grammar, sounds, language contacts. Offered Winter.
Equivalent: CHI 5220, LIN 5100

JPN 5999 Internship in Japanese Studies Cr. 3
Internships in Japanese studies allow students to apply the knowledge they have acquired through the Japanese program and to gain practical experience in their scholarly and professional areas of interest. An internship can also allow students to explore possible areas in which they would like to pursue a career. Offered Every Term.
Prerequisite: JPN 2020 with a minimum grade of D-

KHS - KINESIOLOGY, HEALTH AND SPORT STUDIES

KHS 1000 Contemporary Issues in Sport, Exercise, and Health Sciences Cr. 3
Satisfies General Education Requirement: Social Inquiry
Survey of selected topics in Kinesiology, including exercise science, health, physical education, athletic training and sports studies; a focus on current issues and related industry careers. Offered Fall, Winter.

KHS 1010 Wellness at Wayne Cr. 1
Satisfies General Education Requirement: Wayne Experience
Integrates information of eight dimensions of wellness with campus resources and encourages healthful living for WSU students. Class will include regular meetings at various campus locations and will involve physical activity sessions. Offered Fall, Winter.
Restriction(s): Enrollment limited to students with a class of Freshman.

KHS 5900 Research Methods in Kinesiology, Health and Sport Studies Cr. 3-4
Research proposal preparation, including literature review, hypothesis construction, research design, and computer-aided data analysis. Application of skills to critical reading of primary sources. Offered Fall, Winter.

KHS 6540 Workshop in Kinesiology, Health and Sport Studies Cr. 1-3
Exploration of topics of current interest for the profession. Offered Spring/Summer.
Restriction(s): Enrollment limited to students in the College of Education.
Repeatable for 12 Credits

KHS 7990 Special Problems in KHS Cr. 1-3
Offered Fall, Winter.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 9 Credits

KHS 7999 Master's Essay and Project Direction Cr. 3
Development and review of essay or project. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 9 Credits

KHS 8540 Theories of Health Behavior Cr. 3
Overview of select social and behavioral theories used to understand health-related behaviors and develop interventions. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.

KHS 8700 Research in the Psychosocial Aspects of Physical Activity Cr. 3
Development of in-depth understanding of psychosocial aspects of research in physical activity (exercise, sport, leisure activity). Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students with a class of Doctorate; enrollment is limited to students in the Department of Kinesiology, Hlth & Sport Std; enrollment is limited to students with a major in Kinesiology; enrollment limited to students in a Doctor of Philosophy degree.

KHS 8750 Internship in Kinesiology, Health and Sport Studies Cr. 1-8
Professional experience in public or private institutions relevant to student's field of specialization. Initial plan of involvement and final evaluation. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $16
Equivalent: SAM 8750
Repeatable for 8 Credits

KHS 8800 Social Ecological Theories for Health Cr. 3
Doctoral level course designed to provide an overview of social and behavioral theories related to health. Offered Every Term.
Restriction(s): Enrollment is limited to students with a major in Kinesiology; enrollment limited to students in a Doctor of Philosophy degree.

KHS 8850 Physical Activity and Health Interventions Cr. 3
Doctoral level course designed to provide an overview of physical activity and health interventions developed and tested across different populations. Offered Every Term.
Restriction(s): Enrollment is limited to students with a major in Kinesiology; enrollment limited to students in a Doctor of Philosophy degree.

KHS 8999 Master's Thesis Direction Cr. 1-8
Offered Fall, Winter.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 8 Credits

KHS 9600 Doctoral Seminar in Kinesiology, Health and Sport Studies Cr. 3
Introduction to active programs of research in the field of kinesiology; research presentations and discussion by faculty, guest lecturers and students. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students in the Department of Kinesiology, Hlth & Sport Std; enrollment limited to students in a Doctor of Philosophy degree.

KHS 9601 Professional Seminar Cr. 1
Critical examination, presentation, and discussion of current interest in kinesiology and health. The emphasis is on interdisciplinary communication and presentation skills. Offered Every Term.
Restriction(s): Enrollment limited to students in a Doctor of Philosophy degree.
Repeatable for 6 Credits

KIN - KINESIOLOGY

KIN 1991 Professional Perspectives in Kinesiology Cr. 3
Overview of academic professional and career perspectives of kinesiology. Introduction of basic concepts and applications of fitness, physical activity, wellness, nutrition and assessment. Offered Fall, Winter.

KIN 2560 Individual Problems in Kinesiology Cr. 1-3
Solving a specific problem under the guidance of the divisional staff. Offered Fall, Winter.
Repeatable for 4 Credits

KIN 3400 Lifespan Growth and Development Cr. 3
Study of change in motor behavior from infancy to older adulthood. Competency in: ability to formulate a developmental perspective, knowledge of changing behavior across life-span, knowledge of factors affecting motor development, ability to apply knowledge in instructional and recreational settings. Offered Every Term.

KIN 3540 Cultural Foundations of Kinesiology Cr. 3
Introduction to cultural competence and cultural issues in physical activity, exercise, sport, and fitness for kinesiology and health care professionals. Offered Every Term.

KIN 3550 Motor Learning and Control Cr. 3
Satisfies General Education Requirement: Writing Intensive Competency
Study of motor skill acquisition and motor control with applications to physical activity. Focus on cognitive processes and neural mechanisms which contribute to motor learning and control. Satisfies General Education program Writing Intensive requirement for kinesiology majors. Offered Every Term.
Prerequisites: AFS 2390 with a minimum grade of C or ENG 2390 with a minimum grade of C or ENG 3010 with a minimum grade of C or ENG 3020 with a minimum grade of C or ENG 3050 with a minimum grade of C

KIN 3580 Biomechanics Cr. 3
Application of knowledge of human physical structure and function in the analysis and appreciation of human movement; theory and practice of human movement analytic techniques. Offered Every Term.
Prerequisites: KIN 1991 with a minimum grade of C and BIO 2870 with a minimum grade of C and STA 1020 with a minimum grade of C or MAT 1000-6XXX with a minimum grade of C
Restriction(s): Enrollment limited to students in the College of Education.

KIN 5100 Anatomical and Physiological Bases of Physical Activity Cr. 3
Basic anatomical and physiological principles that have direct application to physical activity programming in the K-12 school setting and in community-based physical activity settings. The course will include practical application experiences to illustrate the theoretical knowledge base. Offered Fall.
Restriction(s): Enrollment is limited to Graduate or Undergraduate level students; enrollment limited to students with a class of Unranked Grad, Junior or Senior.

KIN 5110 Motor Learning and Development Cr. 3
Principles and practices that affect the learning and development of motor skills from birth to early adulthood. Study of theories of motor development, motor learning, and motor control; motor skill classification and games classification; developmental and motor learning stages; methodological considerations including how to measure and assess motor learning in field-based situations; and professional applications of the motor learning and development in physical education and physical activity programming. Offered Winter.
Restriction(s): Enrollment is limited to Graduate or Undergraduate level students; enrollment limited to students with a class of Unranked Grad, Junior or Senior.

KIN 5200 Effective Teaching and Instructional Practices Cr. 3
Effective teaching and instructional practices in physical education and physical activity. Study of the learning process, factors that influence the learning process, effective teaching skills, effective task presentation and content development, and management of and motivation in the learning environment. Research on effective teaching practices, including behavior management, in quality physical education and physical activity programs. Offered Fall.
Restriction(s): Enrollment is limited to Graduate or Undergraduate level students; enrollment limited to students with a class of Unranked Grad, Junior or Senior.

KIN 5210 Movement Education Cr. 3
Advanced study of elementary movement education through and in-depth analysis of Graham's movement skill themes. Study of movement concepts, skill themes, curriculum design, and the implementation of activities in a practical application. Students will also investigate research supporting the inclusion of movement education in quality physical education and physical activity programs. Offered Fall.
Prerequisites: KIN 5200 with a minimum grade of D-
Restriction(s): Enrollment is limited to Graduate or Undergraduate level students; enrollment limited to students with a class of Unranked Grad, Junior or Senior.

KIN 5220 Sports I Cr. 3
This course is designed for students to learn sports across three categories: tag, invasion, and field games. Students will learn multiple sports from each category and will be able to make extensions to many other sports in that category. In addition to instructional strategies, basic concepts, and planning for effective teaching, students will become familiar with the Sport Education Model and Tactical Games Approach. Offered Winter.
Prerequisites: KIN 5200 with a minimum grade of D-
Restriction(s): Enrollment is limited to Graduate or Undergraduate level students; enrollment limited to students with a class of Unranked Grad, Junior or Senior.

KIN 5230 Sports II Cr. 3
This course is designed for students to learn sports across two categories: target and net/wall games. Students will learn multiple sports from each category and will be able to make extensions to many other sports in that category. The specific instructional strategies, basic concepts, and planning for effective teaching will be focused and the sport education model will be further developed. Meanwhile, other instructional models for physical education, such as cooperative learning, teaching game for understanding, and teaching personal and social responsibility, will be introduced. Offered Spring/Summer.
Prerequisites: KIN 5200 with a minimum grade of D-
Restriction(s): Enrollment is limited to Graduate or Undergraduate level students; enrollment limited to students with a class of Unranked Grad, Junior or Senior.

KIN 5240 Fitness Instruction Cr. 3
Introduction to instructing children, youth, adolescents, and young adults in group fitness activities both in a physical activity environment and community setting. Instructional strategies, basic concepts, and planning for teaching group fitness as well as using basic technology to enhance teaching will be taught. Offered Winter.
Prerequisites: KIN 5200 with a minimum grade of D-
Restriction(s): Enrollment is limited to Graduate or Undergraduate level students; enrollment limited to students with a class of Unranked Grad, Junior or Senior.

KIN 5250 Adventure and Outdoor Pursuits Cr. 3
Instructing youth in adventure activities and outdoor pursuits. Basic principles and concepts behind teaching youth how to be physically active in the outdoors; planning appropriate instructional strategies. Content might include lessons focusing on initiatives and trust activities appropriate for school-aged youth as well rock climbing, hiking, kayaking, and orienteering. Offered Spring/Summer.
Prerequisites: KIN 5200 with a minimum grade of D-
Restriction(s): Enrollment is limited to Graduate or Undergraduate level students; enrollment limited to students with a class of Unranked Grad, Junior or Senior.

KIN 5260 Aquatic Leadership Cr. 3
Leadership responsibilities in the area of aquatics. Emphasis on a broad range of aquatic experiences and teaching methodologies including swimming and rescue skills necessary to complete certification as an American Red Cross Water Safety Instructor and Lifeguard. The course will also include program development, including programming for individuals with disabilities, risk management, and staff management. Offered Winter.
Prerequisites: KIN 5200 with a minimum grade of D-
Restriction(s): Enrollment is limited to Graduate or Undergraduate level students; enrollment limited to students with a class of Unranked Grad, Junior or Senior.

KIN 5350 Exercise Science Internship Cr. 2-4
Supervised experience in health and exercise programs with various populations at approved sites. Offered Every Term.
Prerequisite: KIN 6320 with a minimum grade of C and LFA 2330 with a minimum grade of C
Restriction(s): Enrollment limited to students in the College of Education.
Course Material Fees: $16
Repeatable for 8 Credits

KIN 5360 Senior Research Project Cr. 1-5
Students conduct scientific research in exercise science; review of literature, data collection, assisting with data transformation, help with formal presentation of written or oral materials of findings from the study. Offered Every Term.
Restriction(s): Enrollment limited to students with a class of Junior or Senior.
Repeatable for 5 Credits

KIN 5400 Adapted Physical Activity Cr. 3
Discussion of historical and contemporary issues in adapted physical activity; instruction on appropriate evidence-based intervention strategies for individuals with varying disabling conditions; techniques for adapting the environmental conditions to improve performance and attending behaviors; and designing, implementing, and evaluating individualized programs of physical activity for individuals with emerging disabilities that face the community. Offered Fall.
Prerequisites: KIN 3400 with a minimum grade of D- or KIN 5110 with a minimum grade of D-
Restriction(s): Enrollment limited to students in the College of Education.

KIN 5410 Methods and Materials: Adapted Aquatics Cr. 3
Teaching methods and materials to meet the needs individuals with special needs through adapted aquatics including water orientation, swim instruction, fitness instruction, facilities and equipment considerations, and research on adapted aquatics. Offered Spring/Summer.
Prerequisite: KIN 5400 with a minimum grade of C

KIN 5420 Disability and Sports Cr. 3
This course will address teaching and coaching of developmental, recreational, and competitive sports across school-based and community-based settings including Paralympic, Special Olympic and deaf sport; and wheelchair and ambulatory sports for various age groups. Offered Winter.
Prerequisite: KIN 5400 with a minimum grade of C

KIN 5425 Assessment and Service Delivery in Adapted Physical Education Cr. 3
This course addresses how to appropriately and accurately select, administer and interpret assessment results for adapted physical education purposes; use assessment results to design and implement effective adapted physical education programs for PK-12 populations of students with disabilities; and participate collaboratively in the individualized education program (IEP) process. Offered Spring/Summer.
Prerequisites: KIN 5400 with a minimum grade of D-

KIN 5430 Leadership Training and Practicum in Adapted Physical Education Cr. 3
Prepares adapted physical education specialists for leadership positions in K-12 adapted physical education programs and community-based adapted physical activity programs. Includes directed fieldwork in adapted physical education as required by the State of Michigan. Offered Winter.
Prerequisite: KIN 5400 with a minimum grade of C and KIN 5410 with a minimum grade of C and KIN 5420 with a minimum grade of C

KIN 5520 Sport Psychology Cr. 3
History, personality, psychology of injury; theories of motivation, arousal, and anxiety; competition and cooperation, feedback, reinforcement and intrinsic motivation. Team dynamics, group cohesion, communication and leadership processes, psychological qualities and skills (such as goal setting, imagery, concentration). Unhealthy sport behaviors, burnout, over-training. Psychology of youth sport; character development. Offered Fall, Winter.
Prerequisites: PSY 1010-5999 with a minimum grade of C or AFS 2390 with a minimum grade of C or ENG 2390 with a minimum grade of C or ENG 3010 with a minimum grade of C or ENG 3020 with a minimum grade of C or ENG 3050 with a minimum grade of C
Restriction(s): Enrollment limited to students in the College of Education.

KIN 5523 Physical Activity and Exercise Psychology Cr. 3
Introduction of physical activity and exercise psychology from a multi-theory perspective. Determinants, well-being and interventions in physical activity, physical education and exercise settings will be explored through a broad spectrum. Offered Fall, Winter.
Prerequisites: PSY 1010-5999 with a minimum grade of C or AFS 2390 with a minimum grade of C or ENG 2390 with a minimum grade of C or ENG 3010 with a minimum grade of C or ENG 3020 with a minimum grade of C or ENG 3050 with a minimum grade of C
Restriction(s): Enrollment limited to students in the College of Education.

KIN 5530 Technology and Assessment in Kinesiology Cr. 3
Current methods and activities for assessment in physical education and physical activity programming. Course also includes the use of technology in physical education and physical activity programming. Offered Winter.
Prerequisites: KIN 5200 with a minimum grade of D- and KIN 5210 with a minimum grade of D- and KIN 5220 with a minimum grade of D- and KIN 5240 with a minimum grade of D-

KIN 5550 Health and Physical Education for the Elementary School Teacher Cr. 3
Broad content knowledge of developmentally appropriate physical education and health education for children in grades K-6. Offered Every Term.

KIN 5600 Socio-cultural Issues in Physical Activity Cr. 3
Contemporary and historical perspective on socio-cultural and philosophical issues that influence American youth and instruction in a physical activity setting, including race, gender, sexuality, obesity, and urbanization. Offered Fall.
Restriction(s): Enrollment is limited to Graduate or Undergraduate level students.

KIN 5700 Sport Leadership Cr. 3
Combines theory and practical application to provide an introduction to the various segments of the sports industry, including youth, interscholastic, collegiate, professional, and commercial sports. Additionally, sociocultural, legal, historical and political concepts as applied to sport will be integrated into the curriculum to enable students to develop industry-appropriate competencies. Coursework will also emphasize strategies for career success within the sports industry. Offered Winter.

KIN 5770 Physical Activity Leadership Internship Cr. 7
Individually arranged, supervised, educational and professional experience at an approved on-campus or off-campus based internship site. Opportunities to organize and conduct physical activity leadership responsibilities under close supervision. Through this type of exposure, the student will receive practical, on-the-job experience in one or more types of physical activity leadership. Offered Winter.
Restriction(s): Enrollment is limited to Graduate or Undergraduate level students; enrollment limited to students with a class of Unranked Grad, Junior or Senior.

KIN 5780 Student Teaching and Seminar Cr. 10
This course prepares students for initial teaching certification through K-12 student teaching experience and seminars. The regular seminar will cover a variety of issues and topics related to teaching methods and becoming an effective teacher. Offered Fall, Winter.
Restriction(s): Enrollment limited to students in the College of Education.

KIN 6100 Methods of Group Exercise Instruction Cr. 2
This course will provide students the opportunity to gain fitness leadership knowledge and ability of how to safely instruct a group exercise class. Offered Fall, Winter.
Prerequisites: KIN 6300 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate or Undergraduate level students; enrollment limited to students with a class of Unranked Grad, Junior or Senior.

KIN 6120 Strength and Conditioning Cr. 3
Provides a comprehensive overview of strength and conditioning and is offered to available to both undergraduate and graduate students. Emphasis is placed on the exercise sciences (including anatomy, exercise physiology, and biomechanics) and nutrition, exercise technique, program design, organization and administration, and testing and evaluation. Additionally, this course is designed to prepare students for the nationally accredited Certified Strength and Conditioning Specialist (CSCS) certification exam. Offered Every Term.
Prerequisites: KIN 3580 with a minimum grade of C and KIN 6300 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate or Undergraduate level students.

KIN 6150 ECG Interpretation Cr. 3
This course provides students with an understanding of ECG and how to interpret static and dynamic ECG strips. It gives the opportunity for students to gain a basic knowledge of ECG and how to recognize normal and abnormal ECGs. Offered Winter.
Prerequisites: KIN 6300 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate or Undergraduate level students; enrollment limited to students with a class of Unranked Grad, Junior or Senior.

KIN 6160 Pharmacology for the Physical Activity Professional Cr. 3
Provides students with an understanding of the concepts of pharmacology, how drugs work, and different pharmacologic actions and adverse effects that drugs produce. Offered Winter.
Prerequisites: KIN 3580 with a minimum grade of C and KIN 6300 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate or Undergraduate level students.

KIN 6210 Physical Activity and Cognition Cr. 3
An overview of physical activity as it relates to cognitive functioning across the lifespan. Exploration of measures of physical activity, neuropsychological test batteries assessing various domains of cognitive functioning. Review studies examining the effect of physical activity on cognition and its underlying mechanisms. Offered Winter.
Prerequisites: KIN 5523 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate or Undergraduate level students; enrollment limited to students with a class of Unranked Grad, Junior or Senior.

KIN 6300 Exercise Physiology I Cr. 3
Basic physiological concepts as they relate to exercise and human performance. Practical applications incorporated into the laboratory component. Offered Every Term.
Prerequisites: 1 of MAT 1000-6XXX, STA 1020 and 1 of KIN 1991, BIO 2870
Restriction(s): Enrollment limited to students in the College of Education.

KIN 6310 Exercise Physiology II Cr. 3
Metabolic, neuromuscular, cardiovascular, and respiratory adjustments to acute and chronic exercise in health and disease, including body composition and weight control, nutritional considerations, and the effects of different environments on exercise performance. Offered Every Term.
Prerequisites: KIN 6300 with a minimum grade of C
Restriction(s): Enrollment limited to students in the College of Education.
Equivalent: PSL 6010, PT 6310

KIN 6320 Fitness Assessment and Exercise Prescription Cr. 3
Provides physiological principles of physical fitness, including the assessment of physical fitness and exercise prescription guidelines. Offered Every Term.
Prerequisites: BIO 2870 with a minimum grade of C and KIN 6300 with a minimum grade of C or KIN 6300 with a minimum grade of C and KIN 6310 with a minimum grade of C

KIN 7580 Biomechanical Analysis of Motor Activity Cr. 3
Principles and practice in the analysis of human movement. Selected methods of analysis are used in demonstrations and lab experiences. Students complete a biomechanical analysis project on an appropriate human motor skill. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students.

KIN 8530 Motor Learning Cr. 3
Examination of research in motor learning and performance. Relation of the nervous system and other physiological mechanisms to motor behavior and other conditions which affect the acquisition of motor skill: perception, motivation, psychology of motor behavior. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.

LAS - LATINO/LATINA AND LATIN AMERICAN STUDIES

LAS 1410 Latino/a Studies Seminar Cr. 1
First year seminar on Latino/a cultural studies topics. Offered Every Term.
Repeatable for 6 Credits

LAS 1420 Introduction to Interdisciplinary Latino/a Studies Research Cr. 3
Satisfies General Education Requirement: Diversity Equity Incl Inquiry
Interdisciplinary introduction to the issues, concepts, and debates concerning the study of Latin American and Latino/as in the U.S. Offered Winter.

LAS 1900 History of Colonial Latin America Cr. 3
Satisfies General Education Requirement: Historical Studies, Social Inquiry
The Spanish and Portuguese conquests in the Americas; the multi-racial and class social structures they established as colonies, and the movements for independence, 1492-1822. Offered Yearly.
Restriction(s): Enrollment is limited to Undergraduate level students.
Equivalent: HIS 1900

LAS 1910 Latin America from Independence to the Present Cr. 3
Satisfies General Education Requirement: Diversity Equity Incl Inquiry, Global Learning Inquiry, Historical Studies, Social Inquiry
Latin America from early nineteenth century to the 1980s. Major themes include: 1) colonial pasts and political independence; 2) state formation, and the construction of identities at local and national levels; 3) elite and popular relations, including cases of rebellion, revolution, and state repression; 4) forms of capitalist development and transformations in class relations, ideologies of economic development, and linkages to the United States. Offered Yearly.
Equivalent: HIS 1910

LAS 2100 Chicano/a Literature and Culture Cr. 3
Satisfies General Education Requirement: Cultural Inquiry, Civ and Societies (CLAS only), Diversity Equity Incl Inquiry, Global Learning Inquiry
Examination of Chicano/a literature. Themes and figures in a social and historical context. Offered Every Other Year.
Equivalent: SPA 2400

LAS 2110 Puerto Rican Literature and Culture Cr. 3
Satisfies General Education Requirement: Cultural Inquiry, Civ and Societies (CLAS only), Diversity Equity Incl Inquiry
Examination of Puerto Rican literature. Themes and figures in a social and historical context. Offered Every Other Year.
Equivalent: SPA 2500

LAS 2250 AfroLatino/a History and Culture Cr. 3
Satisfies General Education Requirement: Cultural Inquiry
Interdisciplinary introduction to the history and culture of AfroLatinos/as in the U.S. from the perspective of the African Diaspora in the Americas. Offered Winter.
Equivalent: AFS 2250

LAS 2410 History of Mexico Cr. 3
Satisfies General Education Requirement: Foreign Culture, Global Learning Inquiry
Historical development of Mexico and the Mexican people from the Spanish conquest to the present. Interaction of political, social, economic and cultural influences. Offered Yearly.
Equivalent: HIS 2440

LAS 2420 History of Puerto Rico and Cuba Cr. 3
Satisfies General Education Requirement: Diversity Equity Incl Inquiry, Foreign Culture, Global Learning Inquiry
Historical development of Puerto Rico and Cuba from the pre-Columbian period to the present. Interaction of political, social, economic and cultural influences. Offered Intermittently.

LAS 2430 History of Latino/as in the United States Cr. 3
Historical development of people of Hispanic descent in the United States from the early nineteenth century to the present. Cultural conflict, and interaction of political, social, and economic forces. Offered Yearly.
Equivalent: HIS 2430

LAS 3610 Seminar in Latino/a Urban Problems Cr. 3
Satisfies General Education Requirement: Social Inquiry, Social Sciences
Historical and current issues in economics, politics, and culture involving the multi-racial and multi-ethnic Latino/a population of the United States. Offered Intermittently.

LAS 3710 Learning About Your Community Through Research Cr. 4
Blend of participatory, in-service, and classroom work to enhance undergraduate research skills by linking social science theories and concepts to hands-on community-based learning opportunities. Offered Fall.
Restriction(s): Enrollment is limited to Undergraduate level students.
Equivalent: SOC 3710

LAS 3800 Spanish for Heritage Learners Cr. 3
Review of grammar and composition for Spanish heritage learners. Conducted entirely in Spanish. Offered Intermittently.
Prerequisites: SPA 2025 with a minimum grade of C
Equivalent: SPA 3800

LAS 3990 Directed Study Cr. 1-3
Special topics are addressed by students and faculty. Offered Fall, Winter.

LAS 5231 The Conquest in Latin America Cr. 3
Varying perspectives on European conquests in Latin America. Offered Intermittently.
Equivalent: HIS 5231

LAS 5234 Race in Colonial Latin America Cr. 3
Use of race to organize colonial society in Latin America. Offered Intermittently.
Equivalent: HIS 5234

LAS 5310 Special Topics in Latino/a and Latin American Studies Cr. 3
Selected, specialized and/or topical studies in Latino/a and Latin American studies. Topics to be announced in Schedule of Classes. Offered Fall, Winter.

LAS 5560 Spanish American Cultures and their Traditions Cr. 3
Spanish America before and after the discovery of the New World. Art, music, customs, contemporary institutions, through films, records, newspapers, gallery visit to Detroit Institute of Art, and the text. Offered Every Other Year.
Prerequisites: SPA 4610 with a minimum grade of C or SPA 4620 with a minimum grade of C or SPA 4630 with a minimum grade of C or SPA 4640 with a minimum grade of C
Equivalent: SPA 5560

LAT - LATIN

LAT 1010 Elementary Latin I Cr. 4
Introduction to the grammar, syntax and vocabulary of the language, and introduction to the culture of the ancient Romans. Offered Fall.
Course Material Fees: $5

LAT 1020 Elementary Latin II Cr. 4
Continuation of LAT 1010, with increasing emphasis on reading ability. Offered Winter.
Prerequisites: LAT 1010 with a minimum grade of D-
Course Material Fees: $5

LAT 2010 Intermediate Latin Cr. 4
Satisfies General Education Requirement: Foreign Culture, Global Learning Inquiry
Review of Latin grammar, and readings from selected Roman prose authors such as Cicero and Caesar. Offered Fall.
Prerequisites: LAT 1020 with a minimum grade of D-
Course Material Fees: $5

LAT 2020 Intermediate Latin II Cr. 4
Introduction to genre; poetic language, meters, sociological and historical context; Catullus, Horace, Ovid, Vergil. Offered Winter.
Prerequisites: LAT 2010 with a minimum grade of D-
Course Material Fees: $5

LAT 3210 Latin Poetry Cr. 4
Intermediate-level course for reading representative samples of poetry by prominent Latin authors. Offered Yearly.
Prerequisites: LAT 2020 with a minimum grade of D-
Repeatable for 12 Credits

LAT 3220 Latin Prose Cr. 4
Intermediate-level course for reading representative samples of prose by Latin authors. Offered Yearly.
Prerequisites: LAT 2020 with a minimum grade of D-
Repeatable for 12 Credits

LAT 5000 Latin for Graduate Students Cr. 1-4
Basic grammar and vocabulary of Latin; leads to reading of continuous passages of poetry and prose in Latin. Offered for graduate credit only. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 4 Credits

LAT 5300 Readings in Roman History and Culture Cr. 1-3
Readings in Latin primary sources that are relevant to the associated CLA course (which is taught in English). Offered Every Term.
Prerequisites: May be taken concurrently: CLA 5000-6XXX with a minimum grade of D- and LAT 3000-6XXX with a minimum grade of D-
Repeatable for 6 Credits

LAT 5810 Roman Historians Cr. 4
Selected readings from Tacitus, Livy, Caesar or Sallust illustrating the Roman rhetorical and ethical analysis of republican and imperial history. Offered Intermittently.
Prerequisites: LAT 3000-3999 with a minimum grade of D-

LAT 5850 Epic Cr. 4
Readings in Latin of the works of epic poets such as Ennius, Vergil, Lucan, Statius and others. Offered Intermittently.
Prerequisites: LAT 3000-3999 with a minimum grade of D-

LAT 5860 Lyric and Elegy Cr. 4
Readings in Latin of lyric and elegiac poetry by authors such as Catullus, Tibullus, Horace, and Propertius. Offered Intermittently.
Prerequisites: LAT 3000-3999 with a minimum grade of D-

LAT 5990 Directed Study Cr. 1-4
Directed independent research in depth on a topic or author not treated in the regular Latin offerings, culminating in a course paper. Offered Every Term.
Repeatable for 8 Credits

LAT 6100 Latin Prose for Learning and Teaching Cr. 3
Online course for future and current teachers of K-12 Latin. The grammar and syntax of Latin prose of the Republican period, through selected readings from authors such as Cato, Cicero, Caesar, Sallust, and Nepos; focus on narrative prose rather than oratory. Composition exercises to reinforce the study of grammar and stylistics. Course covers ways in which teachers can incorporate prose composition into their classes as exercises in fluency, and as a way to teach grammar in order to prepare their students for standardized tests in Latin. Students will prepare and share lesson plans. Web course. Offered for graduate credit only. Offered Spring/Summer.
Prerequisites: May be taken concurrently: LAT 3210 with a minimum grade of D- and May be taken concurrently: LAT 3220 with a minimum grade of D- or LAT 3150 with a minimum grade of D-
Restriction(s): Enrollment is limited to Graduate level students.

LAT 6500 Roman Epistolography Cr. 4
Social, literary, and historical significance of the letters of such writers as Cicero, Pliny and Seneca. Offered Intermittently.
Prerequisites: LAT 3000-3999 with a minimum grade of D-

LAT 6820 Roman Rhetoric Cr. 4
Study of Roman rhetorical theory and practice. Offered Intermittently.
Prerequisites: LAT 3000-3999 with a minimum grade of D-

LAT 6840 Roman Drama Cr. 4
Study of Roman comedy and tragedy through study of comedies of Plautus or Terence, or tragedies of Seneca. Studies in the early history of Roman drama may include readings in the literary remains of Accius, Pacuvius, and Naevius. Offered Intermittently.
Prerequisites: LAT 3000-3999 with a minimum grade of D-

LAT 6890 Roman Satire Cr. 4
Readings in the works of satirists such as of Horace, Persius and Juvenal. Offered Intermittently.
Prerequisites: LAT 2020 with a minimum grade of D-

LAT 7810 Studies in Latin Poetry Cr. 4
Study of a major poet or genre of poetry. Topics to be announced in Schedule of Classes . Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 12 Credits

LAT 7820 Studies in Latin Prose Cr. 4
Study of a major prose author or prose genre. Topics to be announced in Schedule of Classes . Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 12 Credits

LAT 7999 Master's Essay Direction Cr. 1-4
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students with a class of Candidate Masters.

LAT 8999 Master's Thesis Research and Direction Cr. 1-8
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students with a class of Candidate Masters.
Repeatable for 8 Credits

LDT - LEARNING DESIGN AND TECHNOLOGY

LDT 1000 City of Design: Exploring Creativity in Detroit Cr. 3
Students will develop creativity by examining their individual growth, by employing creative design strategies to solve problems and by investigating "City of Design" Detroit locations to analyze innovative design solutions. Offered Every Term.

LDT 2015 Introduction to Learning Design and Technology Cr. 3
Provides a historical overview of the field and delineates the foundational knowledge, skills, and attitudes needed by professionals. Students will explore various aspects of the field, including potential opportunities and career paths. Students will be able to distinguish between educational technologies and understand how design and technology teams impact practice. Offered Every Term.
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the College of Education.

LDT 3115 Instructional Design Cr. 3
Explores broad conceptions of design including all activities involved in generating intentional change via artifacts and experiences. Offered Every Term.
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the College of Education; enrollment is limited to students with a major, minor, or concentration in Instructional Technology or Learning Design and Technology.

LDT 3125 Evaluation Techniques and Tools Cr. 3
Evaluation techniques and tools for learning design and technology; formative and summative evaluation approaches; selecting appropriate evaluation techniques; designing effective evaluation tools to generate feedback and facilitate improvement. Offered Fall, Winter.
Prerequisites: May be taken concurrently: IT 3115 with a minimum grade of D- or LDT 3115 with a minimum grade of D-

LDT 3135 Practical Project Management Cr. 3
Basic techniques and skills needed to handle projects: goal setting, scheduling, resource management, monitoring and problem solving. people and process fundamentals, software applications.
Prerequisites: May be taken concurrently: IT 3115 with a minimum grade of D- or LDT 3115 with a minimum grade of D-

LDT 3145 Interactive Course Design Cr. 3
Strategies and techniques for organizing, presenting, assessing and evaluation web-based learning. Includes individual oral and written reports, development of an instructional web site. Offered Yearly.
Prerequisites: May be taken concurrently: IT 3115 with a minimum grade of D- or LDT 3115 with a minimum grade of D-
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the College of Education.

LDT 4135 Engaging Presentation and Facilitation Strategies Cr. 3
Knowledge and delivery skills for conducting professional presentations in multiple settings; facilitation of small and large group sessions; focus on communication process, audience analysis, research, preparation, selection of content and support materials. Offered Yearly.
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the College of Education.

LDT 4145 Digital Games for Learning Cr. 3
Design and development of games that are engaging and lead to learning. Students develop a learning game in a studio environment. Offered Yearly.
Prerequisites: May be taken concurrently: IT 3115 with a minimum grade of D- or LDT 3115 with a minimum grade of D-
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the College of Education.

LDT 4155 Simulations for Learning Cr. 3
Design and development of models and interfaces for simulations, including devices, discrete and continuous models, and branching scenarios. Offered Yearly.
Prerequisites: May be taken concurrently: IT 3115 with a minimum grade of D-
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the College of Education.

LDT 4165 Digital Video for Learning Cr. 3
Principles of multimedia learning applied to video production for the web or digital media. Offered Yearly.
Prerequisites: May be taken concurrently: IT 3115 with a minimum grade of D- or LDT 3115 with a minimum grade of D-
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the College of Education.

LDT 4195 Emerging Technologies Cr. 3
Emerging digital technologies and their potential impact on learning in different settings as well as evaluation and implementation of new technologies. Offered Yearly.

LDT 4235 Directed Study in Learning Design and Technology Cr. 1-4
Directed study on special topics, supervised on an individual basis and which fall outside the scope of formal courses. Offered Every Term.
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students with a class of Junior or Senior; enrollment limited to students in the College of Education.
Repeatable for 4 Credits

LDT 4310 Next Generation Learning Management Systems Cr. 3
Design, create, and implement instructionally sound learning environments by using advanced learning management systems to promote learning in face-to-face, blended, and online classes. Offered Fall.
Prerequisite: LDT 3115 with a minimum grade of D-

LDT 4410 Multi-dimensional Learning Environments Cr. 3
Design principles and use of multi-dimensional learning environments in various contexts like education, business, and communication by using mobile apps, devices, and tools. Offered Winter.
Prerequisite: LDT 3115 with a minimum grade of D-

LDT 4905 Advanced Seminar in Learning Design and Technology Cr. 3
In-depth study for advanced undergraduate students in learning design and technology, covering various topics including instructional design, instructional development protocols, and the applications of learning design and technology in different settings. Offered Yearly.
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students with a class of Senior; enrollment limited to students in the College of Education.

LDT 4920 Internship in Learning Design and Technology Cr. 4
Supervised training under professional mentors in organizations. Students will gain experience in demonstration of design, evaluation, project management, presentation skills, etc. Offered Yearly.
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students with a class of Senior; enrollment limited to students in the College of Education.

LDT 4995 Capstone Seminar in Learning Design and Technology Cr. 3
Offered Winter.
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students with a class of Senior; enrollment limited to students in the College of Education.

LDT 5140 Producing and Evaluating Technology-Based Instructional Materials Cr. 4
Design and development of instructional materials and media with an emphasis on technology applications integration. Creation and evaluation of instructional media and materials, based on national and state technology standards. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: INF 6360

LDT 5275 Learning in Organizations Cr. 4
Provides an overview of key issues of human resource management, learning, and talent development in organizations. It will also explore considerations for technical training, soft skills training, compliance, as well as the effects of global environments in organizational learning. Offered Every Other Year.
Prerequisites: IT 3115 with a minimum grade of D- or IT 6110 with a minimum grade of D- or LDT 3115 with a minimum grade of D- or LDT 6110 with a minimum grade of D- or LDT 7111 with a minimum grade of D- and IT 3125 with a minimum grade of D- or IT 7150 with a minimum grade of D- or LDT 3125 with a minimum grade of D- or LDT 7150 with a minimum grade of D- and IT 3135 with a minimum grade of D- or LDT 3135

LDT 5310 Next Generation Learning Management Systems Cr. 3
Design, create, and implement instructionally sound learning environments by using advanced learning management systems to promote learning in face-to-face, blended, and online classes. Offered Yearly.
Prerequisite: LDT 3115 with a minimum grade of D-

LDT 5410 Multidimensional Learning Environments Cr. 3
Design principles and use of multi-dimensional learning environments in various contexts like education, business, and communication by using mobile apps, devices, and tools. Offered Yearly.
Prerequisite: LDT 3115 with a minimum grade of D-

LDT 6135 Technology Applications in School Administration Cr. 2-3
Use of technology tools by school administrators; factors related to leadership and research in technology integration. Also offered online. Offered Fall.
Repeatable for 3 Credits

LDT 6140 Designing Web Tools for the Classroom Cr. 4
Design, development and evaluation of learning experiences using the World Wide Web. Student creates and evaluates learning activities using the Web; creation of personal learning portal. Basics of HTML and common authoring tools. Also offered online. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.

LDT 6230 Internet in the Classroom Cr. 4
Students use a variety of tools from the read/write web and explore their potential for use in K-12 education. Students also examine the use of online learning in the K-12 classroom. Offered Winter.
Prerequisites: IT 6140 with a minimum grade of D- or LDT 6140 with a minimum grade of D-
Restriction(s): Enrollment is limited to Graduate level students.

LDT 7100 Foundations of Instructional Technology Cr. 3
Introduction to the foundations of instructional technology: intellectual history, careers, job roles, organizations, scholarly literature, requisite technology skills; introduction to course content and initial planning for students' programs. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.

LDT 7105 Micro Analysis Methods Cr. 4
Following a high-level needs assessment, students will apply a variety of analytical methods to define specific solution requirements used during the design phase. Focus will include: job, task, process, content, learner and contextual analysis. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Graduate level students.

LDT 7111 Design Thinking and Knowledge Cr. 4
Exploring broad conceptions of design including all activities involved in generating intentional change via artifacts and experiences; design thinking and knowledge. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: INF 6350

LDT 7112 Advanced Learning Design Cr. 4
Exploration and application of techniques, tools and competencies characteristic of expert designers. Topics may include: instructional strategies, program design, advanced analysis techniques, empathic design, rapid prototyping, reducing design cycle time, designing instruction for diverse learner populations and developing designer professional identity. Offered Every Term.
Prerequisite: LDT 7111 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

LDT 7115 Understanding the Adult Learner Cr. 4
Analysis of how adults learn: learner readiness, development, motivation. Developmental and learning theories, memory, creativity, experiential learning, and affective learning. Content based primarily on psychology of teaching and learning of adults; secondarily on application to instruction and training. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.

LDT 7130 Facilitation of On-Line Learning Cr. 4
Design, development, implementation, facilitation and evaluation of various learning activities for diverse learners in online contexts, using appropriate learning technologies. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students.

LDT 7140 Interactive Course Design Cr. 4
Design, development and implementation of web-based courseware. Characteristics, advantages and limitations of the web as an instructional delivery system. Appropriate instructional strategies for the web. Use of contemporary development tools to create engaging, interactive, instructionally-sound web materials; design and development teams create and test a web-based instructional module. Also offered online. Offered Fall, Winter.
Prerequisites: IT 6110 with a minimum grade of C or LDT 6110 with a minimum grade of C or LDT 7111 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

LDT 7150 Evaluation of Learning and Performance Cr. 4
Evaluation of learning and performance interventions. Link to evaluation stakeholders, decision-making, and performance needs; identification of measurable indicators and alignment of methodology. Deriving actionable performance improvement recommendations. Offered Fall, Winter.
Prerequisites: IT 6110 with a minimum grade of C or LDT 6110 with a minimum grade of C or LDT 7111 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

LDT 7180 Message Design for Learning Cr. 4
Analysis and application of principles of perception, message design, and foundation research for publication of print and electronic materials. Includes use of color, shape, typography, and page and screen design principles. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.

LDT 7210 Foundations of Distance Education Cr. 4
Critical review of the theoretical foundations, principles, current status and future directions of distance education. Offered online. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.

LDT 7220 Multimedia for Instruction Cr. 4
Instructional design and development applied to multimedia instruction, such as games for learning. Instructional strategies for higher-order learning, including problem solving. Alternative design and development methodologies. Essential multimedia production tools. Also offered online. Offered Every Other Year.
Prerequisites: IT 6110 with a minimum grade of C or LDT 6110 with a minimum grade of C or LDT 7111 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

LDT 7230 Advanced Multimedia for Instruction Cr. 4
Advanced topics in multimedia and web-based learning, including topics such as design, planning, production and editing of digital audio and video for use in multimedia websites and CDs/DVDs used for learning. Offered Fall.
Prerequisites: IT 7140 with a minimum grade of C or IT 7220 with a minimum grade of C or LDT 7140 with a minimum grade of C or LDT 7220 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 998.99 Credits

LDT 7310 Learning Management Systems Cr. 4
Design and implementation of systems to support e-learning and traditional delivery. Implementation of traditional courses in a generic LMS; interface of course materials to standards-based management systems, reusable learning objects, standards, and collaborative learning. Also offered online. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.

LDT 7320 Human Performance Technology Cr. 4
Fundamentals of human performance technology, performances, standards, tools and techniques for the performance improvement consultant; analyzing jobs and tasks; improving individual performance; performance technology and instructional development strategies and tactics for performance improvement, performance support systems, organizational behavior; strategic planning and thinking; general processes; professional practices; human performances interventions of an instructional and non-instructional nature. Also offered online. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 998.99 Credits

LDT 7850 Needs Assessment and Analysis Cr. 4
Discussion and application of needs assessment and analysis concepts, approaches and procedures across various performance levels (organizational, human, and instructional). Discusses evidence and processes required for performance intervention selection. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.

LDT 7920 Strategic Planning for Training and Organization Improvement Cr. 4
Current organizational issues and new competencies in the training profession, respecting: growth of organizational intellectual capital, resolution of complex performance problems, transformation of organizational culture and engineering of change. Offered Every Other Year.
Prerequisites: IT 7320 with a minimum grade of C or LDT 7320 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

LDT 7940 Capstone Course in Learning Design and Technology Cr. 4
Capstone course for the Learning Design and Technology program. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students.

LDT 7980 Capstone Seminar in Learning Technologies Cr. 4
Capstone seminar for advanced students in Learning Technologies track. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students.

LDT 8100 Background, Issues and Trends in Instructional Technology Cr. 4
History of instructional technology practice and intellectual foundations; implication for current issues. Factors likely to affect the future of the field, including contributions of key leaders. Electronic communication techniques used to explore issues with others in the field. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 12 Credits

LDT 8110 Advanced Instructional Design Theory and Research Cr. 4
Analysis of theoretical foundations of instructional design and their application in design practice. Current design research and theory, future directions in design theory and practice. Offered Winter.
Prerequisites: IT 6110 with a minimum grade of C or LDT 6110 with a minimum grade of C or LDT 7111 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

LDT 8120 Practicum in Instructional Technology Cr. 1-9
Students design, develop, use, and evaluate instructional systems and subsystems in an educational, business, industrial, or human services setting. Offered Fall, Winter.
Prerequisites: IT 6110 with a minimum grade of C or LDT 6110 with a minimum grade of C or LDT 7111 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 998.99 Credits

LDT 8130 Individual Projects in Instructional Technology Cr. 1-6
Students develop instructional technology material packages and devices through individual design and production. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 6 Credits

LDT 8135 Technology Applications in Central Administration Cr. 3
Use of technology tools and data by central administrators; factors related to central office leadership and research in technology integration. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Education.

LDT 8180 Readings in Instructional Technology Cr. 1-6
Individually-paced course: investigation of recent research studies and theoretical essays in the field. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 6 Credits

LDT 8320 Performance Consulting and Analysis Cr. 4
Practical application of principles of performance consulting to solve problems in large and small organizations. Topics include: role of performance consultant, identifying business needs, assessing performance, contracting techniques, managing the performance improvement process. Also offered online. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students.

LDT 8500 Strategies for Teaching in Higher Education Cr. 3
Teaching in higher or adult education; topics may include: course design, writing tests, presentation skills, leading discussions, use of technology including course management systems. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 9 Credits

LDT 9105 Conducting Research in Learning Design and Technology Cr. 4
Design, execution, and reporting of research in learning design and technology. Students should complete most of the course work for the learning design and technology program before registering for this course. Offered Fall.
Prerequisites: EER 7000-9999 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

LDT 9110 Advanced Research Seminar and Practicum Cr. 4
Course designed for advanced doctoral students in Learning Design and Technology; however it is also appropriate for students in other disciplines. Students should have completed almost all of their coursework in their major, and preferably also their work in EER. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students.

LED - LANGUAGE EDUCATION

LED 5300 Teaching Chinese as a Second Language Cr. 1-3
Introduction to basic teaching grammar and sound rules and general teaching methodology. Offered Winter.
Prerequisites: CHI 3100 with a minimum grade of D-
Equivalent: CHI 5300

LED 5850 Assessment in the Foreign Language Classroom Cr. 3
Theoretical basis of second language teaching models; historical overview of methodologies; current trends in teaching of reading, writing, listening, speaking, and culture. Implications of methodology on materials, classroom techniques, and assessment. Offered Every Other Year.
Equivalent: LGL 5850

LED 6500 Teaching World Languages in Elementary and Middle Schools: Methods III Cr. 3
Approaches and techniques; review of theory and practice relevant to young learners. Students teach mini-lessons and prepare materials based on national standards and age-appropriate methodologies. Offered Yearly.
Restriction(s): Enrollment limited to students in the College of Education.

LED 6510 Second Language Acquisition and the Teaching of Grammar Cr. 3
Seminar and intensive review of major models of applied sociolinguistics and psycholinguistics; second language acquisition research and teaching of grammar in K-12 education. Offered Yearly.
Restriction(s): Enrollment limited to students in the College of Education.

LED 6520 Teaching English as a Second Language/Foreign Language: Methods I Cr. 3
Methods and techniques; fundamental theory and practice; English as an international/intranational language. Students micro-teach lessons and prepare teaching materials which emphasize the listening and speaking language skills. Offered Yearly.
Restriction(s): Enrollment limited to students in the College of Education.

LED 6530 Teaching English as a Second Language/Foreign Language: Methods II Cr. 2-3
Methods and techniques; English as an international/intranational language. Students micro-teach lessons and prepare teaching materials which emphasize the reading and writing language skills. Offered Yearly.
Restriction(s): Enrollment limited to students in the College of Education.

LED 6555 Integration of Language and Content in Language Teaching Cr. 1-3
Examination and evaluation of instructional strategies used to teach content and develop a second language in specific content/language area instruction. Offered Yearly.
Restriction(s): Enrollment limited to students in the College of Education.
Repeatable for 3 Credits

LED 6565 Assessment in Language Teaching Cr. 1-3
Instruments, techniques, and strategies in the assessment, placement, and evaluation of second language instruction, including language learners in K-12 and post-secondary education. Offered Yearly.
Restriction(s): Enrollment limited to students in the College of Education.
Repeatable for 3 Credits

LED 6580 Culture as the Basis for Language Teaching Cr. 2-4
Culture examined in a multidisciplinary theoretical framework, to provide students with objective relativistic and holistic attitude about human diversity, enabling them to relate to pupils in urban areas. Offered Every Other Year.
Repeatable for 4 Credits

LEX - LAW

LEX 5000 Law in Social Context Cr. 3
Covers several substantive areas, with a particular focus on property in both its traditional common-law form (like owning a house) and in its newer statutory contexts (like intellectual property -- for example, owning a patent). What does it mean to own something? What makes someone a legal owner of something? What kinds of things can be owned, what things cannot, and why? Offered Yearly.
Restriction(s): Enrollment is limited to Undergraduate level students.

LEX 5010 Law and Harm Cr. 3
Presents the basic concepts of law and the fundamentals of legal analysis, giving in-depth attention to the fields of tort and criminal law and using them to examine how law conceives of, regulates, and adjudicates questions of harm. When can you sue a person or a group for harming you? On the street or in a business, what makes something a crime, and why do we prosecute and punish crimes the way we do? Offered Yearly.
Restriction(s): Enrollment is limited to Undergraduate level students.

LEX 5020 Legal Procedure Cr. 3
Examines the lifecycle of a case in court. Discusses how a lawsuit begins with the filing of a complaint and how it ends in a judicial order, and it covers everything else that happens along the way—with special attention paid to things like negotiation and settlement. Introduces legal concepts like "due process of law," and explores the procedural similarities and differences between civil cases, criminal cases, and administrative proceedings. Offered Yearly.
Restriction(s): Enrollment is limited to Undergraduate level students.

LEX 6100 Civil Procedure A Cr. 3
Structure of the judicial system in the United States and the process of civil litigation from the commencement of an action through appeal. Subjects considered include jurisdiction, the relationship between state and federal courts, pleading, discovery and other pre-trial devices, trial and appellate review. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 6101 Civil Procedure B Cr. 3
Structure of the judicial system in the United States and the process of civil litigation from the commencement of an action through appeal. Continuation of LEX 6100. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 6200 Contracts A Cr. 3
General principles of the law of contracts; definitions of contract; illegality, mistake, frustration, impossibility; statute of frauds, interpretation, the parol evidence rule; performance and breach; rescission; repudiation and discharge. Remedies, including damages, specific performance, injunction and restitution. All topics considered from viewpoints of both common law and statute. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 6201 Contracts B Cr. 3
General principles of the law of contracts; definitions of contract; illegality, mistake, frustration, the parol evidence rule; performance and breach; rescission; repudiation and discharge. Remedies, including damages, specific performance, injunction and restitution. All topics considered from viewpoints of both common law and statute. Continuation of LEX 6200. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 6300 Criminal Law Cr. 3
General doctrines of criminal liability as they relate to the moral and social problems of crime; definitions of principal crimes and defenses to criminal prosecution, both common law and statutory; limitations on the use of criminal sanctions. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 6400 Legal Research and Writing Cr. 2
Analysis of legal problems and the use of legal materials, through discussion, written assignments, and personal conferences. Preparation of a trial brief and oral argument on a selected civil or criminal case before a court composed of faculty or members of the local bench and Bar. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 6500 Property Cr. 4
Basic course in real property, which will include selected materials from some of the following areas: historical introduction to real property; personal property transfers by gift, finding, adverse possession; modern law of possessory estates, including non-freehold estates, and landlord and tenant relationships; concurrent estates; restraints upon the use of land; conveyancing and effects of the Recording Acts. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 6600 Torts Cr. 4
Legal principles underlying wrongs not based on contract, arising from intentional or negligent conduct and including strict liability; the nature of particular wrongs, including injuries to the person, to reputation, to real or personal property, and to interference with business or family relations. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 6700 Constitutional Law I Cr. 3
Problems arising under the Constitution of the United States, with particular attention to the nature of judicial review in constitutional cases and to the role of the judiciary in umpiring the federal system. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 6800 Professional Responsibility and the Legal Profession Cr. 2
Conflicts of interest; the attorney's standard of care, fiduciary duty, the organization of bar associations, the attorney's duty to the court and the community; the attorney's responsibilities in trial, and in unilateral actions and negotiations. The duty of disclosure of adverse data, the development of group legal services, and of legal services to the poor, and the responsibility of the bar in these areas. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 6900 The Regulatory State Cr. 3
Introduction to statutes and agency decisions and the central role they play in modern government. Nature of statutes and agency regulations, how they are generated, and how they are interpreted and applied. Justifications for modern regulation, the modern administrative state, the incentives that influence the behavior of the various actors, and the legal rules that help structure the relationships among legislatures, agencies and courts. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7001 Accounting for Lawyers Cr. 2
Basic concepts of bookkeeping and generally-accepted accounting principles; background to help read and interpret financial statements; auditor's role and accounting issues that arise in business planning, in litigation, and in managing financial investments. May not be taken for credit by those who completed more than two undergraduate accounting courses or a graduate course in financial accounting. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7006 Administrative Law Cr. 3-4
Functions and behavior of administrative agencies; constitutional and statutory constraints on agency operation. Government role in formulating and enforcing policy, administering of public benefit programs, and awarding of licenses. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7009 Advanced Bankruptcy Cr. 3
Students will become familiar with the chapter 11 business reorganization process. By reviewing mock bankruptcy schedules, and cash collateral, relief from stay, and chapter 11 plan and disclosure statement proceedings, the students will develop the necessary substantive knowledge and hone their negotiation and trial advocacy skills. A problem-oriented approach will be used, with students and instructors participating in resolving situations commonly encountered in a business bankruptcy. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7014 Taxation of Corporations: Acquisitions and Restructuring Cr. 4
Satisfies the professional skills requirement. Explores the tax rules for corporate stock or asset acquisitions and restructurings (including reorgs, spins and loss carryovers), and S corporations or consolidated returns through the lens of a simulated firm tax group working on a series of client projects (using an actor as client). Each student will work on at least two team projects during the semester, preparing written and oral presentations for, and briefing the client on, issues related to the team project topic. Team projects include: prepping a client for and negotiating an acquisition, drafting a private letter ruling request, preparing an internal memorandum outlining the pros and cons of restructuring choices, researching and writing a tax opinion letter, and outlining advantages of various entity choices for future transactions. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7015 Advanced Torts Cr. 2
This course will focus on torts not involving physical injury, such as misrepresentation, defamation, invasion of privacy, interference with business relations, and misuse of legal procedure. These causes of action, which provide remedies for economic, reputational, or emotional harm, are not ordinarily covered in the four-hour Tors course required in the first year. They have become burgeoning areas of potential liability due to the emergence of electronic communications. An effort will be made to integrate substantive doctrine and practice implications with legal, economic, political and social theory. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7016 Alternative Dispute Resolution Cr. 2
Forms of non-trial dispute resolution: arbitration, mediation, and negotiation--their various permutations and substantive applications. Factors affecting choice between dispute resolution processes, differences in design and structure, relative costs, quality of participant performance, accountability for results, privacy of proceedings, role of legal norms and lawyers, due process considerations, availability of judicial review; tactics and strategies employed in arbitration, mediation and negotiation. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7021 American Indian Law Cr. 3
This course explores the foundational principles and doctrines governing the legal and political relationship between the United States and Indian tribes. Major topics in the course include the history of federal Indian law and policy, congressional plenary power, principles of interpretation of laws and treaties regarding Indians, the nature of tribal sovereignty, and jurisdiction in Indian country. In examining these topics, we will discuss laws and policies concerning tribal justice and legal systems, gambling and taxation in Indian country, and the Indian Child Welfare Act. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7023 Animal Law Cr. 3
Animal law encompasses human-animal interactions and evaluation of competing interests within the context of traditional areas of law (e.g., veterinary malpractice, expansion of anti-cruelty statutes to include farm animals, damage for death of / injury to companion animals, disputes over custody of companion animals in divorce or separation, landlord-tenant housing disputes, the inclusion of animals in wills and trusts, and constitutional issues such as standing). It also encompasses the current legal status of animals as living property and explores whether this status is antiquated and needs re-evaluation to reflect societal beliefs and values. Course will consider these traditional areas of law, groundbreaking laws enacted by other countries, as well as theories for the expansion of consideration and rights.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7026 Antitrust Cr. 2-4
Government control of trade practices and industrial market structures which inhibit the competitive process; monopoly, oligopoly, mergers, cartel practices, distribution arrangements, resale price control, franchising patent licensing, foreign commerce and price discrimination under the Sherman, Clayton, Federal Trade Commission, and Robinson-Patman Acts. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7045 Banking Law Cr. 2
Legal environment of the banking industry. Topics include: history and scope of banking in the United States, statutory requirements for chartering and operating banks, regulatory oversight at the Federal and State level, commercial and consumer lending, deposit insurance, lender liability, bank failures, and recent developments in banking regulation and legislation. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7051 Bankruptcy and Creditors' Rights Cr. 3
Problems arising when debtors are in financial difficulty, including the principal state remedies of unsecured creditors such as attachment, garnishment, and enforcement of judgments; Chapter 7 bankruptcy liquidations; Chapter 13 wage-earner plans; and Chapter 11 reorganizations. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7058 Bioethics and the Law Cr. 3
Role of law in shaping, analyzing and resolving conflicts that arise in the interplay between medicine, biotechnology, ethics, social history, and cultural evolution. Topics include reproductive rights and genetic technologies, maternal fetal decision making, medical decision making, definitions of death, death and dying decisions, regulation of research on humans, interdisciplinary decision making, and access to health care. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7060 Business Planning Cr. 4
Problems involving common business transactions, including choice of entity to conduct business; organization, financing, and operation of a corporation; restructuring of business enterprises. Corporate, tax, securities law, and financial matters; role of business lawyer in counseling and planning business transactions. Relationship between the corporation and its shareholders. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7061 Business Planning: A Transactional Approach Cr. 4-8
Organizational problems for the closely-held and the public corporation; operational problems such as stock distributions, issuance of new securities, constructive dividend problems, and stock redemptions; corporate acquisitions, other reorganizations, contested take-overs, and liquidation and termination problems. Credit only on completion of two terms. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7070 Child Abuse and Neglect Cr. 2
Introduces students to state and federal laws governing the child protection and child welfare systems. Topics addressed will include: defining abuse and neglect; mandatory reporting; child protection investigations and limitations thereon; emergency removal and less burdensome alternatives; adjudicatory hearings and proof of abuse and neglect; dispositional hearings and powers; permanency planning and long-term placements; termination of parental rights; right to counsel; and the duties of lawyers for children in abuse and neglect cases. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7075 Child, Family, and State Cr. 3
Aspects of children in legal system. Legal relationship between children, their parents, and government (federal, state, local, and tribal); rights of these parties and relationships between them. Education, medical care, children's rights, concept of legal parenthood, parental rights (and termination thereof), adoption, juvenile justice process. Concentration on constitutional and policy analysis as opposed to examination of rules and regulations in the different areas. Students graded on class participation, several short written assignments, and take-home final examination. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7121 Conflict of Laws Cr. 3
Principles, rules and methods thought to underlie the resolution of multi-state problems. Jurisdiction and enforcement of judgments of other states. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7126 Constitutional Law II Cr. 4
Individual rights under the Constitution of the United States. Freedom of speech, religious freedom and equal protection. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.
Equivalent: LEX 7829

LEX 7127 Constitutional Litigation Cr. 3
This course will track the jurisdictional and constitutional basis and the history of claims by individuals against government officials for constitutional violations. It will explore the limits and constraints on the actions of officials and the policies of governments. How must the plaintiffs plead and prove such cases and how can defendants defend their actions and policies. Since 1961, victims of official misconduct – ordinary private persons – have had the ability and opportunity to enforce the United States Constitution in federal courts. This has for decades provided American lawyers, courts and litigants with important power, the power to directly shape American democracy in unique ways. The study of this system of constitutional enforcement is essential to an understanding of American constitutional jurisprudence. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7128 Consumer Law Cr. 2-3
An introduction to law specially directed at the rights and obligations of consumers. The consumer marketplace is regulated by a series of discrete statutes and regulations, such as the Federal Trade Commission Act (and accompanying regulations), Truth-in-Lending Act, Fair Credit Reporting Act, Equal Credit Opportunity Act, Fair Debt Collection Practices Act, and lemon laws. This course provides an overview of these special rules and their interpretation and enforcement. As such the course provides an introduction to the role of administrative agencies and the interpretation of statutes and regulations. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7136 Copyright Law Cr. 3
Law of copyright and related doctrines protecting literary, musical and artistic works. Nature of rights and kinds of works protected, doctrine of fair use, pre-emption problems, and problems posed by new technologies. Emphasis on 1976 Copyright Act and its relation to issues such as home videotaping, photocopying and non-profit performance of protected works. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7141 Corporate Finance Cr. 3
Economic and legal problems arising in connection with financing decisions of publicly-held corporations, including valuation of the enterprise and its securities, determination of securities structure and dividend policy, capital structure (including problems relating to debt), and acquisition strategies. Federal securities regulations and selected topics. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7156 Corporations Cr. 2-4
Relationships between owners and directors of a corporate enterprise; different types of stock ownership and the corresponding rights in profits and control; consolidation and merger; distinctive features of the closed corporation. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7160 Criminal Pretrial Advocacy Cr. 3
The court rules, statutes and Constitutional principles implicated in pre-trial criminal advocacy. Topics include arraignment, discovery, pre-preliminary examination, preliminary examination, motion practice, and pleas. Structural rules and principles of the process; the practical application of those rules and principles. Students participate in mock arguments, client meetings, and witness interviews, and draft the documents that would be filed in a criminal case. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7161 Criminal Procedure: Investigation Cr. 3
Constitutional requirements for arrests, searches, seizures, electronic surveillance, and interrogations. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7166 Criminal Procedure: Adjudication Cr. 3
Operation of the criminal justice system from the defendant's first appearance in the court through the trial, and to post-conviction remedies, including a study of bail, the preliminary hearing, the grand jury, voir dire, discovery, double jeopardy, joinder, and habeas corpus. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7172 Developing the Commercial Real Estate Project Cr. 3
Real estate development: laws and requirements affecting the development of commercial properties, including the law of contracts; real estate interests, such as mortgages, easements and encumbrances, zoning laws, environmental laws, building codes and requirements and other regulatory laws. Topics include: purchase and sale contracts, title and survey matters, due diligence investigations, closing processes, construction, financing, and leasing. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7190 Domestic Violence and Law Cr. 2
Grounded in the historical and social context of domestic violence, as well as the dynamics of abusive relationships; this course will examine the response of the legal system to complex issues raised by domestic violence. The course will focus on criminal and family law issues and their intersections. Also explored will be current issues in the law as well as cultural contexts of interpersonal and gender-based violence. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7201 Education Law Cr. 3
Survey of education law with emphasis on public education. Historical development of education law in the U.S. as well as topics of current interest: tenure, academic freedom, school discipline, school financing, home-based schooling, state regulation of private schools, church-state relationships, and desegregation in public education. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7205 Employee Benefits Law Cr. 3
Survey course provides students with a strong grounding in the major laws affecting employment-based benefits plans, including the Employee Retirement Income Security Act (ERISA) and the Internal Revenue Code. Retirement plans (including traditional defined benefit plans and common types of defined contribution plans such as 401 (k) plans). and welfare benefit plans (including health and life insurances and disability plans). Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7216 Employment Discrimination Cr. 2-3
Federal constitutional and statutory guarantees of freedom from invidious discrimination in employment. Thirteenth and Fourteenth Amendments, Title VII of the Civil Rights Act of 1964, the Reconstruction Civil Rights Acts, 42 U.S.C. 1881, et seq., the Equal Pay Act of 1963, and the Age Discrimination in Employment Act of 1967. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7221 Employment Law Cr. 2-3
Legal rights and responsibilities of employees (excluding rights provided by anti-discrimination laws and the NLRA); statutory and common-law limitations on the employer's right to discharge; protection of employee privacy and reputation; laws governing wages and hours, occupational safety, unemployment compensation, workers' compensation, and employee benefits. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7226 Entertainment Law Cr. 2-3
Legal and business issues in the entertainment industries, including those related to sound recordings, music publishing, literary publishing, films, television, the Internet and other new media. Readings and discussions: representing talent, drafting and negotiating contracts, remedies for breaches, and rights of publicity. How the entertainment industries and their economics work. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7228 Energy Law Cr. 3
Introduction to energy law and regulation in the United States. Principles of rate regulation of public utilities and the division of jurisdiction between federal and state governments. Emerging trends such as promotion of energy efficiency and renewable energy. (This course does not cover traditional oil and gas law.) Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7231 Environmental Law Cr. 2-3
Environmental law in common-law, statutes, constitutional issues, administrative and international law. Coherent legal analysis of environmental problems and active legal remedies, rather than specialized instruction in pollution controls and the like. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7236 Equitable Remedies Cr. 2-3
Survey of the equitable remedies available for the vindication of substantive rights, which includes injunctive and restitutionary relief as well as the general treatment of equitable relief in contract, tort and criminal actions. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7241 Estate, Gift and Inheritance Taxation Cr. 2
Federal and state transfer taxes and income taxation of fiduciaries and beneficiaries. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7266 Evidence Cr. 2-4
General principles relating to the proof of questions of fact in civil and criminal trials, including competency, relevancy, and materiality of evidence; judicial notice, presumptions; burden of proof; competency of witnesses, rules relating to examination and cross-examination of witnesses; weight and sufficiency of evidence. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7301 Family Law Cr. 2-3
Entry into marriage; legal treatment of couples in marital and non-marital relationships; divorce, including custody, alimony and property distribution, and the role of the attorney; procreation; illegitimacy; rights and responsibilities of children and parents with respect to each other and to the state; child abuse and neglect; and adoption. When offered for two credits, considerably less time is devoted to children's issues. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7306 Federal Courts and the Federal System Cr. 2-3
Interrelationship of state and federal law in our legal system from the point of view of the federal courts and the Congress. Emphasis on the politics, history, and philosophy of federalism, rather than on procedures. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7311 Taxation of Partnerships Cr. 2-3
This course covers the federal income taxation of partnerships and partners, with significant focus on the governing statutory provisions and regulations and the mechanics of partnership tax accounting. Topics will typically include the transfer of property to a partnership; determination of partners' distributive shares of items of income, gain, loss and deduction; partnership recourse and non-recourse debt; partnership cash or property distributions; and transfers of interests in partnerships. The course will also cover more general policy issues, including such topics as the concepts motivating the aggregate or entity approach, concepts of tax avoidance and the ethical issues arising in connection with the use of partnerships in tax shelter transactions, and the advantages and disadvantages of partnerships compared to alternative forms of business taxation such as C corporations and pass-through S corporations. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7331 Franchise Law Cr. 2
Provides a survey of franchise and product distribution law, taking into account federal and state legeslation and case law. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7353 Health Care Organizations and Finance Cr. 3
Legal responses to problems of health care costs, access and financing from both public and private perspectives. Registration of insurance and managed care, developments in federal ERISA preemption, changing business structures, and antitrust enforcement. Medicare and Medicaid financing, rules prohibiting self-referrals, and standards policing fraud and abuse. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7354 Health Care Quality, Licensing and Liability Cr. 3
Legal responses to problems of health care quality and medical errors. State licensing of health care professionals and institutions, self-regulation, and tort liability for physicians, hospitals and managed care organizations. Basic introduction to health care institutions, the particulars of malpractice litigation, and proposals for tort reform. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7371 Immigration and Nationality Law Cr. 2-3
Immigration, its history and development; entry into the United States, and alien status and adjustment to status; deportation and relief from deportation; exclusion and relief from exclusion; nationality and citizenship. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7381 Insurance Law Cr. 2
General principles, including indemnity, subrogation, reinsurance, insurable interest and classification of risks such as personal business and legal liability. Michigan insurance law and ""no fault"" legislation examined; contractual rights and liabilities of the insurer, insured, and third party beneficiaries. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7384 International Commercial Arbitration Cr. 3
Course follows the life cycle of an international commercial arbitration, including: drafting and enforcing arbitration agreements; appointment and challenge of arbitrators; conduct of the proceedings; drafting of awards; review and enforcement of awards by courts at the seat of arbitration and beyond. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7404 International Business Transactions Cr. 3
This course introduces a wide range of problems and issues that private business entities may encounter in doing business across national borders. Topics include international sales, import and export regulations, cross-border IP protection and technology transfer, foreign direct investment, business ethics, and dispute settlement. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7406 International Finance: Transactions, Regulation, and Policy Cr. 3
Legal problems associated with flow of capital across national borders. Topics include international financial transactions, regulation of international capital markets, regulation of international banking and financial services, emerging market debt crisis, role of International Monetary Fund, reform of international financial system. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7407 International Intellectual Property Law Cr. 3
Addresses the legal issues surrounding the protection of intellectual property rights in a globalized commercial environment. The course centers on the study of the principal multilateral treaties that protect intellectual property rights: the Berne Convention on copyrights, the Paris Convention on trademarks and patents, and the Agreement on Trade-Related Aspects of Intellectual Property Rights ("TRIPS"). The course also looks at the intellectual property component of the North American Free Trade Agreement, and a variety of legislative materials from the European Union. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7408 International Law Cr. 3
Basic legal concepts applied by international tribunals and courts of the United States to the relations between independent nations. The nature and sources of international law; the use of treaties; international organizations; and practices respecting recognition, territory, nationality and jurisdiction. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7409 International Litigation Cr. 3
Issues arising in civil cases in American courts in which international parties, evidence, and issues are present. Subjects include personal jurisdiction, service of process abroad, conducting discovery abroad, suing foreign sovereigns and governmental officials, forum non conveniens and international arbitration. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7410 International Organizations and Public Health Cr. 3
Course has two objectives: first, to give students a working understanding of the structure, function, and mission of the international organizations that increasingly impact modern life: the WTO, EHO, World Bank, IMF, and UN; second, to explore the effects of globalization on public health. Topics include: WHO control of infectious diseases such as SARS, impact of the WTO on pharmaceutical pricing of AIDS drugs and genetically-modified foods, international conventions for tobacco control, and influence of World Bank and IMF privatization requirements on health sector reform in developing countries. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate, Law or Medical level students; enrollment limited to students in the Law School or School of Medicine.

LEX 7411 International Protection of Human Rights Cr. 2-3
The main international and regional legal instruments and procedures for the protection of human rights. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7413 International Prosecution of State Actors Cr. 3
Legal and political aspects of new processes by which one-time state officials (such as former Yugoslav President Slobodan Milosevic, former Chilean dictator Augusto Pinochet, and former East German leader Egon Krenz) and their followers have been subjected to prosecution in international and foreign legal systems. Basic elements of transnational criminal law; controversial questions of principle and policy such as United States opposition to the new International Criminal Court; concerns about retroactive punishment; respect for amnesties that have contributed to ending civil conflicts. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7414 International Legal Research Cr. 1
Fundamentals of research in public international law. In connection with Jessup International Law Moot Court Competition, students review structure of international legal institutions, nature of the materials they produce, and the unique way these materials are indexed and cataloged. Focus on how these materials can best be used in legal advocacy; emphasis on effective writing and oral argument. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.
Repeatable for 4 Credits

LEX 7418 International Trade Law Cr. 3
Regulation of international trade relations. Focus on Law of the World Trade Organization (WTO) and its interaction with domestic regulation of international commerce. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7419 Interviewing and Counseling Cr. 2-3
This course introduces students to interviewing and counseling theory, and helps students develop skills needed to effectively and efficiently interview and counsel clients in both litigation and transactional matters. Topics addressed and skills developed include active listening, phrasing and sequencing questions, eliciting timelines, probing for details, clarifying objectives, identifying options and discussing their consequences, and helping clients make final decisions. The course makes extensive use of role-playing exercises. Each student conducts a full-length simulated interview at mid-semester, and a full-length simulated counseling session towards the end of the semester. When offered for three credits, the course will include a forty-hour fieldwork component in which each student will interview and counsel actual clients who are seeking free legal help from one of the Law School's clinics or from a faculty-approved public interest externship field placement. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7422 Islamic Law Cr. 3
This course will survey the universe of Islamic law from the vantage point of a beginner to the field. The readings and class discussions will broadly cover the following: (1) classical Islamic jurisprudential theory, (2) substantive aspects of family and criminal law, (3) the intersection of Islamic law and the American legal system, and (4) the place of American-Muslims in the framework of American constitutionalism. Because law - of any variety - does not operate in a vacuum, discussions will proceed with reflection on prevailing sociopolitical realities such as global terrorism, jihadist movements, Islamophobia, misogyny, and racism. The student will also be asked to draw from the offerings of philosophy, critical race theory, postcolonial studies, security studies, and feminism. The aim is for course participants to develop a more textured understanding of Islamic law and to be better positioned to understand the debates surrounding its relevance and practice. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate or Law level students.

LEX 7424 Introduction to the Legal System of the United States Cr. 2-3
General introduction to the institutions and processes involved in lawmaking and legal interpretation in the United States, with a focus on lawmaking at the federal level. Topics include: federal legislative process, precedent and the common-law method, federal administrative rule-making, separation of powers, and judicial review. Sources of law produced by these processes and the development of research strategies with respect to these sources. Course is also designed to provide foreign LL.M students (all of whom write a Master's Essay to complete the LL.M. program) with an overview of the principal forms of legal scholarship in the American academy. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7426 Jurisprudence Cr. 2-3
Analysis of important legal notions such as law, sanction, rule, and sovereignty; relations between law and morals as seen particularly in the development of natural law and legal positivism and in the development of the notion of legal responsibility. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7435 Juvenile Delinquency Cr. 2
Introduction to the juvenile justice system. Topics include: juvenile court jurisdiction over delinquents and status offenders; pretrial criminal procedure in the juvenile justice context; screening and diversion; pretrial detention; waiver of juvenile court jurisdiction; procedural rights at trial; dispositional decisions. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7501 Labor Law Cr. 2-4
Legislative, administrative and judicial regulation of labor relations. The scope of national labor legislation; the protection of the rights of self-organization and the designation of bargaining agents; the negotiation and administration of the collective agreement; the legality of strikes, picketing and boycotts; employer interference with concerted activities; and the relations between unions and their members. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7506 Labor Law in the Public Sector Cr. 2
State (and some federal) regulation of labor relations in the public sector. Establishment of representative status, negotiation and administration of the collective agreement, strikes and impasse resolutions. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7511 Land Use Cr. 2-3
Allocation of land use in the urban environment by both private agreement and governmental order. Problems involved in the development and effectuation of community planning; goals by means of conservation, clearance, and renewal; zoning, variances and exceptions; housing code enforcement, subdivision control, eminent domain; relocation. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7514 Law, Authority, and Resistance Cr. 3
This course addresses, in both theoretical and practical terms, the relationship between legal and political obligation: When, if ever, do individuals have a moral obligation to obey the law because it is the law? What count as valid justifications of civil disobedience, conscientious refusal, or insurrection? When can governmental authority justifiably depart from "the rule of law"? When can individuals be held criminally accountable for egregious acts committed under unjust prior regimes? The course combines classics of the history of political thought with contemporary theoretical writings and contemporary discussions of topical questions (e.g., jury nullification, emergency measures, transitional justice). Particular attention will be paid to the special obligations of lawyers who are asked to validate immoral practices (e.g., "enhanced interrogation methods" in the Global War on Terrorism). Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate or Law level students.

LEX 7517 Law, Policy and International Development Cr. 3
Explores various law-based strategies for achieving economic and political development in poor countries. One influential school of thought claims that capitalism will not flourish in developing nations until there is a long-term, national commitment to reform property laws. Other scholars and development specialists insist that instituting the rule of law is the linchpin to attaining international development. Yet others insist that all law reform efforts are pointless unless access-to-justice issues are first addressed. This course is designed to investigate these claims and allow each student to come to her or his own conclusions about how law is most effectively used as a strategy for promoting political and economic development. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate or Law level students.

LEX 7518 Law of Armed Conflict Cr. 3
History and current state of the law governing recourse to force (jus ad bellum) and the law governing the application of force (jus in bello). Contemporary jus ad bellum topics include: prohibition of the use of force in international relations, self-defense, unilateral intervention in internal conflicts and humanitarian crises, as well as collective action relating to security and humanitarian crises. Contemporary jus in bello topics include: legal obligations relating to targeting, selection of weapons, status and treatment of prisoners, and protection of civilians during hostilities and occupation. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7520 Advanced Legal Writing: Legal Drafting Cr. 3
Legal Drafting provides students with an opportunity to develop transactional drafting skills. It focuses on writing techniques involved in drafting transactional documents most often assigned to summer interns and first and second year associates. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7536 Appellate Advocacy Cr. 3
Research and analysis of complex legal problems involving legislative history and administrative regulations. Class discussion on advanced research, development of strategy, and organization and writing as an advocate. Students write an appellate brief. May not be taken on pass/no credit basis. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7541 Legislation Cr. 3
The legislative process and its use as an instrument of change; legislative drafting revision, interpretation and implementation. The appropriations process; role of and control of lobbying; operation of the legislative process and its effect on policy formulation; conduct of Congressional investigations, and effects of separation of powers doctrines. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7581 Local Government Law Cr. 2
Law as an instrument for governing urban areas. Distribution of decision-making power between private and public persons, between state and local governments and among various local governments. Local finance, decentralization, annexation and municipal incorporation. Exploration of possible reform by means of metropolitan government or federal assistance. The lawyer's role in formulating governmental policy in major urban complexes. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7590 Maastricht Exchange Program Cr. 1-4
Students take courses offered in the Maastricht Exchange Program. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students.
Repeatable for 4 Credits

LEX 7595 Law Exchange Program Cr. 1-6
Intended for students participating in approved study abroad programs of study. Offered Every Term.

LEX 7603 Mergers and Acquisitions Cr. 2-3
Mechanics of an acquisition, including: (1) state corporate codes relevant to acquisitions, dissenting shareholder remedies, listing requirements, and federal security law affecting the mechanics (proxy, tender offers, public offerings); (2) successor liability, transfers of assets; (3) acquisition documents (confidentiality agreements, letters of intent, basic agreements, closing); (4) legal duties of board of directors and dominant shareholders (decision to sell or acquire, conflicts of interest, attempts to block takeovers, shareholder value); (5) disclosure requirements of federal and state securities law; (6) accounting and tax issues (definition of tax-free reorganization, accounting for mergers and acquisitions). Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7604 Mock Trial Workshop Cr. 2
Introduces students to basic evidence concepts (e.g. relevance, competency, impeachment, hearsay, authentication) and helps student develop basic trial advocacy skills (e.g. how to develop persuasive case theories and themes, how to deliver opening statements and closing arguments, how to examine and cross-examine witnesses, how to lay a proper evidentiary foundation for testimony, how to introduce and use demonstrative evidence, how to refresh a witness's recollection, how to impeach a witness by using the witness's prior statements, how to make and respond to objections). The course is graded on an Honors-Pass-Low Pass-No Credit basis. Students who have taken Trial Advocacy (LEX 7836) are not eligible to take this course, and vice versa. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate or Law level students.
Equivalent: LEX 7836

LEX 7605 Multistate Taxation in the Digital Age Cr. 3
Sale and use taxes and corporate and personal income taxes imposed by state and other sub-national governments, including Indian tribes. Constitutional limits on cross-border taxation under the Due Process Clause and the Commerce Clause. Methods for apportioning income among jurisdictions, from theoretical and practical perspectives. Special income tax and sales tax issues arising from electronic commerce. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7616 Negotiation Cr. 2,3
The 2 credit course is a comprehensive examination of various legal principles that affect negotiations, such as rights assessments, custom and practice, rule of contract construction, concepts of condonation, proper and improper conditions, as well as the effective use of evidence in the negotiation process. The course also explores strategic methods and techniques in which attorneys are frequently involved that affect the outcome of negotiations. Students will participate in mock negotiations. The 3 credit course will cover the material described above and will additionally address (1) the reintroduction of several topics (e.g., contract drafting, collaborative lawyering, use of mediation in negotiation), (2) the expansion of other topics (e.g., multicultural negotiation, the law of settlement), (3) enhanced processing of simulations, and (4) one or more contract drafting exercises. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7631 No-Fault Insurance Law Cr. 2
Comprehensive review of Michigan's No-Fault Automobile Insurance Law, which governs all motor vehicle accidents in the State. Topics include: questions of coverage, medical and work loss benefits, coordination of benefits, exclusions, priorities, subrogation, and claims procedures. Negligence claims under the No-Fault Law also reviewed. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7651 Patent Enforcement Cr. 3
Unique aspects of patent litigation. Policy issues; practice considerations in enforcing patents. Issues in approaching a patent infringement suit (who can file; when and where to file). Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7656 Patent Law Cr. 3
Substantive patent and related trade secret law. Emphasis on nature of patent right; scope of coverage of patent system; issues of validity, infringements, inequitable conduct, patent-antitrust. Special issues relating to software, living organisms, and chemistry. Technical background not required. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7657 Patent Prosecution Cr. 2-3
Art of writing patent applications; aspects of practicing before the Patent and Trademark Office (PTO). Rules and techniques for investigating what is legally considered the background of the invention (prior art). Introduction to basic claim drafting concepts, techniques for writing a written description (or specification) of an invention. Effective response to PTO actions as defined by the Manual of Patent Examining Procedure (MPEP) and by the relevant case law. Inter partes post-grant proceedings and derivation proceedings available under the new America Invents Act. Ethics and licensing will be briefly covered. Course provides a good foundation for students who wish to take and pass the patent bar exam to become registered to practice before the PTO. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7659 Political Theory of Public Law Cr. 3
Legal restraints on exercise of public power as conceived in works of early modern theorists (e.g., Machiavelli, Locke, Montesquieu, and Madison), and as applied in constitutional arrangements that have emerged in a range of historical settings. Topics include: role of law in totalitarian political systems; emergency rule; comparative approaches to judicial review. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.
Equivalent: PS 7580

LEX 7660 Practicum in Dispute Resolution Cr. 3
Training in facilitative mediation with opportunity to practice skills in a variety of settings. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students.
Course Material Fees: $225
Equivalent: DR 7310

LEX 7666 Pretrial Advocacy Cr. 3
Adversary strategy and practice skills in the pretrial stages of litigation. Preparation of pleadings, interrogatories, requests for admission and document production requests. Students negotiate settlement of disputes, draft and argue motions, and take and defend depositions. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7669 Privacy Law Cr. 2-3
Covers the law of information privacy. Addresses the law and policy applying to the collection, use and disclosure of personal information. Relevant law includes state laws founded in tort and property, federal laws addressing specific privacy issues and constitutional limitations on government. Topics may include use of personal information by the media, government surveillance aimed at combating terrorism, the privacy of health care information, the collection and use of personal information by businesses, privacy in schools and at the workplace and international privacy issues. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7676 Public Finance Law Cr. 2
Legal principles involved in public finance transactions: municipal borrowing and debt; state law considerations: sources of authority for borrowing and repayment; effect of ultra vires borrowing, of procedural defects, municipal debt limitations, and other factors relating to power to incur municipal debt; traditional financing techniques; federal tax and securities law considerations; default and municipal bankruptcy; municipal bond market. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7680 Public Health Law Cr. 3
Legal foundations of American public health system; struggle between individual liberties and governmental interest in providing for collective health and well-being of citizens. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7686 Race and the Law Cr. 3
Impact of law on race relations and vice versa. Topics include: history and legal history, civil rights and equal protection, criminal law, affirmative action, employment, hate speech, education, interracial marriage and adoption, housing discrimination, emergence of Critical Race Theory in contemporary jurisprudence. Contemporary issues and solutions illuminated by historical problems and developments. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7689 Race, the Law and Social Change in Southeast Michigan Cr. 2-3
Detroit is the most segregated metropolitan area in the country. Course examines role and limits of law in addressing issues of race, discrimination and equality in southeastern Michigan. From a legal and anthropological perspective, students study the efforts attorneys have made over the past century to create a region more consistent with American values of inclusiveness. Individual and class action lawsuits and other forms of policy advocacy, all addressing legal problems in southeast Michigan, examining litigation tactics and the role of expert testimony. History and social problems of the region examined from the perspective of the courtroom. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7701 Real Estate Financing Cr. 2-3
Methods of financing the acquisition and improvement of residential and commercial real estate through the use of private sources of funds. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7725 Religious Liberty in the United States Cr. 3
Relationship between church and state in the United States. First Amendment Free Exercise and Establishment Clauses; related state and federal statutes; matters of history, legal doctrine, and public policy. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7751 Advanced Sales and Leases under the UCC Cr. 2-3
Advanced study in sales areas beyond first-year contracts course. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7756 Secured Transactions Cr. 3
Basic study of Article 9 of the Uniform Commercial Code with particular attention to the law governing the creation and perfection of security interests in personal property and the relative priorities of interested parties; also attention to some of the following: goods-oriented remedies in Article 2, financing leases in Article 2a, bulk sales, effects of the Bankruptcy Code on secured transactions, and documents of title Article 7. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7761 Securities Regulation Cr. 2-3
Analysis of current problems in federal and state regulation of transactions in securities. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7766 Sports and the Law Cr. 2-3
Survey of legal issues presented by sports in America. Application of basic principles of antitrust and labor law, constitutional law, administrative law, contract law and tort law to sports. Regulation of professional sports labor markets, regulation of agent representation, sports franchises, leagues and the powers of commissioner's offices, and the regulation of intercollegiate sports. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7771 State and Local Taxation Cr. 2,3
Introduces the constitutional and statutory framework of state and local taxation, with a concentration on the current topical issues involved in the taxation of multinational taxpayers and taxation of remote sellers. Corporate and income, sales and use, gross receipts and other excise taxes will be covered, as well as local income and property taxes. Coverage of investment incentives, legislative matters and policy will also be included. Offered Intermittently.
Prerequisite: LEX 7816
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7800 State Constitutionalism Cr. 3
This course will address some of the distinguishing features of state constitutions not shared with the parallel federal document. Among these features are elected judiciaries, part-time legislatures of plenary power, non-unitary executive branches, frequently employed amendment and revision procedures, and state powers over political subdivisions. Significant attention will be devoted to state judiciaries as the interpreters of state constitutions, including state courts' inherent powers, advisory powers, and relationships with federal and sister-state courts. State constitutions also protect civil liberties differently from the U.S. Constitution, both in kind and degree; these differences will be reviewed through readings in constitutional litigation. The course is not a survey of fifty different constitutions. Instead, it is designed to illuminate the common areas of inquiry in a theoretical field remarkably distinct from the study of the federal Constitution. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7806 Tax-Exempt Organizations Cr. 2
Examines tax problems arising from activities of non-profit associations of a type usually subject to taxation. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7816 Taxation Cr. 1-4
Interrelation between income tax policy and basic governmental and social institutions. Introduction to law of federal income taxation; the taxation of individuals. Basic application of these taxes; problems involved in transactions and situations which confront the lawyer in general practice; analysis and use of materials which permit their solution. Underlying problems of policy which have led to the tax law of today and which may be expected to require change in the tax law of tomorrow. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7821 Taxation of Corporations Cr. 4
A detailed exploration of the federal income tax problems of corporations and their investors; an analysis of the statutory rules governing transactions between corporations and their shareholders, including tax-free incorporations, property and stock distributions, constructive dividend problems, stock redemptions; corporate reorganizations with a focus on corporate recapitalizations, dispositions of the assets of a corporation or of investor's interests in a corporation; liquidation problems; and the impact of judicial doctrines on corporate tax planning. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7826 Teaching Law in High School Cr. 3
Students teach 20-25 sessions to a class of high school students, using a widely recognized high school text, Street Law. Students attend a weekly seminar which deals with teaching methods. Students will participate in and present model lessons in the seminar, prepare lesson plans and have field supervision of their teaching in the high school. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7827 Topics in Advanced Legal Research Cr. 2
Covers complex research topics essential to successful legal practice and scholarship and builds upon the basic research skills and techniques learned in the required Legal Research and Writing course (LEX 6400). Its problem-solving approach gives students practical research experiene that will enhance their ability to use legal, archival and social science information persuasively and cost-effectively. The scope is primarily limited to researching United States federal and state law. Offered Spring/Summer.
Prerequisite: LEX 6400

LEX 7828 Law of Electronic Commerce Cr. 3
New legal and policy issues that arise when businesses and consumers use the Internet to conduct their commercial transactions. Broad range of subject matters, such as history and technology of the Internet, regulatory paradigms, trademarks, copyright, jurisdiction over online disputes, spam and other online intrusions, clickwrap and browsewrap contracting, liability of online intermediaries, privacy, taxation of Internet commerce, and consumer protection. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7829 Law of the First Amendment: Freedom of Speech Cr. 2
In-depth coverage of the First Amendment guarantee of freedom of speech, press, association and petition. Emphasis on the ""law of the First Amendment"" as it has developed through the decisions of the Supreme Court; how the ""law of the First Amendment"" operates in the context of actual litigation. First Amendment issues likely to arise in the United States today and tomorrow. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.
Equivalent: LEX 7126

LEX 7831 Trademarks and Unfair Competition Cr. 2-3
Federal trademark statute, 15 U.S.C. section 1051 et. seq., state statutory and common law unfair competition, and the federal law of unfair competition and false advertising under 15 U.S.C. section 1125 (a). Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7836 Trial Advocacy Cr. 3
Basic trial techniques taught through student performances of role-play exercises followed by critique. Mastering major trial skills in isolation: direct and cross examination, introduction of exhibits, impeachment, expert witnesses, opening and closing statements. Application of skills in simulated full criminal or civil jury trial. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.
Equivalent: LEX 7604

LEX 7841 Trusts and Decedents' Estates Cr. 4
Intestate succession, wills and trusts, requisite elements of wills and express trusts, and procedural requirements for their creation; administration of decedents' estates and trusts; special rules relating to charitable and spendthrift trusts; trust forms as equitable remedial devices under resulting and constructive trust rules. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7888 United States Foreign Relations Law Cr. 4
Constitutional and statutory doctrines that regulate the conduct of U.S. foreign relations. Topics include: distribution of foreign affairs powers between the three branches of government, status of international law in U.S. courts, scope of the treaty power, validity of executive agreements, preemption of state foreign affairs activities, and the political question and other doctrines regulating judicial review in foreign affairs cases; political influences on and policy effects of legal doctrines in this field. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.
Equivalent: PS 6870

LEX 7931 Water Law Cr. 2-3
Categories of water bodies and public and private rights therein under the riparian and the prior appropriation systems. Consumptive and non-consumptive uses, management, and protection of the resource. Intergovernmental relations with respect to water resource allocation and management. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7941 White Collar Crime Cr. 3
Substantive and investigative issues related to federal prosecution of business crimes. Balance between government powers to investigate white collar crime and the rights of corporate and individual investigatory targets in connection with criminal prosecutions of federal economic crimes. Problems related to parallel civil enforcement actions involving the same underlying conduct. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7951 Workers' Compensation Law I Cr. 2
Overview of Michigan statute; discussion of ""arising out of"" and ""in the course of employment,"" including the going to and from work doctrine. Analysis of the occupational disease provisions of the statute as compared to single event personal injury provisions. Study of specific loss. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7990 Directed Study Cr. 1-2
A directed study may involve writing a paper, participating in a regularly-scheduled course for reduced credit, or other work of an academic nature. Subject matter and procedure are to be arranged prior to registration. Directed studies may not be elected on a pass-no credit basis. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 7995 Law Practicum Research Cr. 1
Students enrolled in the Law Practicum Research participate in an employment experience directly related to their academic studies and concurrently consult with a supervising member of the full-time Law School faculty. An enrolled student must submit written work to the supervising faculty member that relates the employment experience to the student's academic studies and that includes consideration of the roles and responsibilities of practicing attorneys and strategic and ethical issues in the applicable field of law. Offered Every Term.

LEX 7999 Special Topics Cr. 2-4
Areas of current interest in the law. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8001 Antitrust and Trade Regulation: Current Issues Seminar Cr. 3
Addresses current topics in antitrust and trade regulation, providing a mix of substantive knowledge and professional skills instruction. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8002 Access to Justice Seminar Cr. 3
History, policies, practices and laws that demonstrate how our legal system addresses access to justice for people with economic needs or other restrictions that prevent them from using the system effectively. Seminar examines issues in both the criminal and civil areas. How lawyers are uniquely suited to improve access to justice. Career options to enhance access to justice, such as: following a public interest career, performing pro bono legal service for the poor, and exercising leadership in government and elsewhere to bring changes that enhance access to justice for all.Lectures, readings, research, site visits, and guest speakers. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8003 Reimagining Development in Detroit: Institutions, Law and Society Cr. 3
Seminar course. Examination of contemporary problems of community development from a perspective of institutional economics; how tools and theories of institutional economics are applied to problems relevant to the City of Detroit. Students write research papers applying these tools to issues such as race and regionalism, role of faith-based organizations in community development, abandoned land and community gardens, structure of local governance, charter schools and the fate of public schools, opportunity-based housing, and state of health-care safety net providers. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8010 Ancient Greek and Roman Law Cr. 3
Legal systems of ancient Greece and Rome. The law of Athens during its classical period in fifth and fourth centuries B.C.E.; development of Roman law during Republican period and the Empire, as transmitted through the compilations of Justinian in the sixth century C.E. Students write a paper on a subject related to the course material (this paper will satisfy the Law School writing requirement). Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8015 Asian Pacific American History and the Law : Perspectives on APA Civil Rights and Civil Wrongs Cr. 3
This seminar explores the Asian Pacific American civil rights movement with an overview of how federal and state laws have affected the Asian Pacific American (APA) experience and presence in the United States, covering a variety of civil rights cases and civil wrongs against APAs. The seminar will cover the APA historical timeline, exclusion laws, alien land laws, World War II internment of Japanese Americans, affirmative action as it applies to APAs, civil rights and racial hate crime violence, APAs in the marriage equality movement, bilingual issues in education and in the workplace, post-9/11 issues, immigration law reform, the Hawaiian sovereignty movement, and the effort to change birthright citizenship and immigration laws, among other topics. Offered Fall.
Restriction(s): Enrollment is limited to Graduate or Law level students.

LEX 8029 Citizenship Seminar Cr. 3
Legal understanding of citizenship. How has the concept of citizenship evolved over time? How do we (or should we) decide who is and is not a citizen in the U.S. and in other nations? If one is a citizen, what rights flow from that status? Completion of this seminar satisfies the Law School writing requirement. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students.

LEX 8031 Commercial Law Seminar Cr. 3
Advanced study of an area of commercial law; assigned readings. Final grade based on paper and seminar discussion leadership, on topic selected by student from instructor's list. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8037 Consumerism&Democrcy Cr. 3
Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8039 Contract Drafting Seminar Cr. 3
Knowledge and skills necessary for sound drafting of agreements. Substantive issues of contract law and important drafting issues. Students draft several contracts for review and critique; final grade based on drafting and editing as well as participation in seminar meetings. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8044 Advanced Topics in Criminal Law and Procedure Cr. 3
Focuses on the law governing, practice of, and debate about plea bargaining. Among the questions to be considered: Does plea bargaining serve society well? Is it on firm constitutional footing? What are the constitutional prerequisites for a valid guilty plea? Does plea bargaining work differently in state court and in federal court? In white collar cases and street crime cases? In high-level cases and low-level cases? What legal or extra-legal factors determine the outcome of a plea bargain? And finally, how does pervasive plea bargaining affect the role of the prosecutor, the defense lawyer, and the trial judge? This seminar can be used to complete the upper-level writing requirement. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8048 Current Topics in International Law Cr. 3
Focus on new and controversial issues; topics change with each offering. Readings, class discussions, and paper. How international institutions function, justification for the norms they seek to enforce, and coherence of those norms with respect to theories of international society. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8049 Civil Rights Trip Seminar Cr. 2
introduction to the Civil Rights Movement of the 1950s and 1960s, as well as how lawyers at preeminent civil rights organizations continue the work today. Enrolled students travel to Atlanta, Selma, Montgomery, and Birmingham over spring break; meet with prominent civil rights attorneys; visit the legal, spiritual, and political landmarks of the Civil Rights Movement; meet survivors and activists from the movement, who provide them with first-hand accounts of the Selma to Montgomery March, the maneuverings of segregationist and progressive political figures in Montgomery, and daily life during the Jim Crow and civil rights eras. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8051 Detroit Equity Action Lab: A Collaborative Study of Structural Racism Seminar Cr. 3
This Seminar introduces students to notions of structural racism as it impacts the city of Detroit. Students will work collaboratively with members of the Detroit Equity Action Lab (DEAL) addressing racial equity in a wide range of sectors, such as civil rights, transportation, community development, health, education and housing. Students will develop awareness of the role and limits of law in addressing structural racism. In addition to examining the work of individual organizations, students will consider broader issues impacting racial equity and will explore interventions that might change public policy and public awareness as it relates to structural racism. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8067 Effective Oral Communication for Lawyers Cr. 3
Exercise-based seminar to help students become more familiar with, and more skillful at, oral communication in the various settings familiar to a lawyer. Topics include: physiology of speech and sources of speech pathology; aspects of non-verbal communication; use of humor; stage fright; making communication interesting. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8068 Energy Law: Current Topics Cr. 3
In-depth exploration of a particular topic regarding regulation of energy production or consumption. Topics may include: regulation of fuel sources and emissions in the U.S. transportation sector, incentives and regulations in financing clean energy investments, and the impact of regulation on adoption of electric vehicles. Students are responsible for a research paper and presentation to the class. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8075 Ethics of the Lawyering Experience Seminar Cr. 3
Psychological and ethical dimensions of law and legal practice, explored through engagement with works of fiction and selected legal scholarship. Student writes weekly reaction paper. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8081 Evidence Law: Advanced Topics Cr. 3
Seminar course; students write papers and give presentations on current topics of evidence law. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8101 Family Violence: Seminar Cr. 3
Analysis of the utilization of the legal system to address issues of abuse within the family. Topics include: the response of the criminal justice system to various forms of family violence, such as marital rape, spouse abuse, and child abuse; use of tort and injunctive remedies; examination of new and proposed legislation relevant to these issues. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8141 International Environmental Law Seminar Cr. 3
Students explore use of bilateral and multilateral treaties and other international mechanisms for dealing with international environmental problems; emphasis on United States - Canada international environmental law. In-class presentations, paper required. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8161 International and Comparative Business Law: Doing Business in China Seminar Cr. 3
This seminar is designed as an introduction to the legal aspects of doing business with Chinese entities. After a brief overview of the historical context and the basic structure of the Chinese legal system, we will explore political, economic, legal and cultural issues U.S. companies typically encounter in conducting business with the Chinese. Specific topics include foreign direct investment, company law, intellectual property rights, labor law, banking and foreign exchange, anti-monopoly law, cyber and national security issues, and dispute settlement. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8171 Health Law: Advanced Topics Cr. 3
Examines current legal issues related to health, such as applications of the law within and outside the health care system; contemporary debates on role of government and private sector in health; innovative proposals to use law, ethics and policy to improve health; and the role of law during public health emergencies. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8190 International Women's Human Rights Seminar Cr. 3
Evolution of women's rights as human rights. Students will examine women's human rights in the context of legal instruments such as the UN Convention to Eliminate Discrimination Against Women (CEDAW) and other international treaties, and in the jurisprudence of women's human rights in international tribunals. This course will also explore the role of global and regional human rights organizations in securing women's legal rights and analyze the current legal discourse on women's human rights and explore key issues in the light of specific world regions, cultures and religious traditions. Offered Fall.

LEX 8241 Advanced Topics in Work Law Cr. 3
Examines current and developing issues in labor and employment law. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8248 Law and Literature Seminar Cr. 3
Connection between law and literature. Topics include: role of narrative in legal arguments and legal decision-making; role of narrative and law, respectively, in constructing identity; literary criticisms of the law and legal profession. Focus on stories of adoption, including: shifting definitions of parenthood; nature vs. nurture debate; issues of class, race, gender, and national identity. Novels, short stories, films, memoirs, and legal cases; authors include Charles Dickens, George Eliot, P.D. James, and Louise Erdrich. In-class presentations; paper required. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8256 Law in Cyberspace: Seminar Cr. 3
Topics may include online speech (including regulation of harmful and sexually explicit speech); filtering and intermediary liability; virtual property; online contracts; trademarks and domain names; copyright; the problems that flow from asserting national laws in a medium with no national borders. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8260 Law of the City: Detroit: Seminar Cr. 3
Exploration of legal, economic, and policy issues regarding the contemporary American city, using Detroit as the case study. Themes covered include race, class, positive rights, community organization and identity, economics, public education, environmental justice and legal pluralism. Students read in constitutional and statutory provisions, case law, administrative determinations, academic writing, and current popular media. Discussion of a different aspect of urban law each week; students explore a broad array of legal issues and opportunities in the urban environment around them; current law and policy reforms; research paper and presentation. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students.

LEX 8263 Legal Change Seminar Cr. 3
What is the relationship between law and social change? How effective are changes in legal doctrine in changing social practices? Under what conditions can we effectively use the law to promote social change? This course investigates these questions by studying the relationships among social movements, courts, legislatures, and other international and domestic institutions. Students will examine materials from actual legal reform movements, including equality in education and women's rights, and evaluate strategies for legal reform and their impact on statutory and decisional law as well as social practices. Offered Every Other Year.

LEX 8271 National Labor Relations Act: Current Problems Cr. 3
Legal issues pending before the National Labor Relations Board and in the courts. Students act in place of NLRB and render opinions on critical labor law issues; read actual briefs in pending cases, discuss the cases, and vote on disposition and draft majority and dissenting opinions. Each student writes one majority and one concurring or dissenting opinion. Class discussions focus on NLRB decision-making process and judicial review of Board decisions; and on draft opinions of student Board panels. Grade is based on class participation as well as written work; students may elect to write papers based on legal issues discussed in class. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8280 National Security Law Seminar Cr. 3
National security as area of specialization within government law practice, private law practice, and academia. Aspects of international law, constitutional law, criminal law, administrative law, and other fields as they apply to issues such as: Who formulates and implements the national security policies of the United States? When do the nation's security interests trump competing values (civil liberties, transparency, fulfillment of the nation's international legal obligations? In what respects is America's approach to these issues similar to or different from that of other countries? Readings include statutes, treaties, regulations, case law, and extensive secondary literature, which serve as a basis for a substantial research paper or law journal note. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8300 Race and the Law: Advanced Topics Cr. 3
This seminar will examine the role of the law in creating as well as maintaining race, racial hierarchies, and racial inequality. Contrary to the traditional view of racial subordination as solely a deviation from the liberal legal ideal, this course recasts the role of law as historically central to and complicit in upholding racial hierarchy as well as other hierarchies of gender, class and sexual orientation. The course will investigate these issues over the span of centuries, from the founding of the Americas to the present day. This course will explore oft-discussed issues at the intersection of race and law such as slavery, colonization, immigration, citizenship, nation building, national security, and affirmative action as well as less examined issues, such as sexual exploitation and unarmed police shootings. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8335 Regulation of Vice Cr. 3
Seminar exploring legal, economic, and policy issues regarding federal, state, and local regulation of vice, including: alcohol nicotine, drugs, gambling, and commercial sex. The current legal landscape; potential policy reforms. Students prepare a research paper on a mutually agreed upon topic, which may include a specific regulation or vice law, proposed policy reform, comparative analysis from another jurisdiction, and state/local issues. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8345 Sex, Sexuality and the Law in the Contemporary United States Cr. 3
The ways the law constructs people as sexual beings and regulates that being and her/his sexuality. Seminar course has four main objectives: 1) to deepen understanding of contemporary U.S. laws that address sex and sexuality; 2) to understand the ways in which individuals and groups are impacted by those laws; 3) to learn and apply aspects of critical legal theories in legal analysis; and 4) to strengthen written and oral legal analysis and communication. Workshop format; class contribution makes up a significant portion of the grade. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8351 Sports and Inequality Cr. 3
This seminar will examine the legal and social implications of various forms of discrimination in both the professional and amateur sports contexts. Coverage will include a discussion of legal efforts to address discrimination in sports based on race, gender, disability, and sexual orientation. Topics include racial inequalities on the playing fields and in the front offices of amateur and professional sports, the impact of NCAA eligibility criteria, the effects and future of Title IX, gender segregation and exclusion in professional sports and sexual violence, sexual orientation discrimination in sports, and sports opportunities for people with disabilities. The final paper for this class may be used to satisfy the upper-level writing requirement. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8361 Tax Plcy: Crnt Issus Cr. 3
Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8363 Tax Policy Seminar: Role and Impact of Congressional Oversight on Abusive Tax Strategies Cr. 3
This seminar will examine the international tax rules, the abusive strategies, and the responses by Congress and foreign governments. We will use excerpts from Congressional hearings to explore the role of Congressional oversight in identifying the noncompliance with existing laws, the role of foreign governments in facilitating abuses and illegal behavior, and the need for legislative or administrative action to address some of the abuses. We will consider policy options to reduce the incentives for businesses to pursue these strategies. We will examine professional ethics and the role of lawyers and other professionals in structuring these abusive transactions. Offered Fall.
Restriction(s): Enrollment is limited to Graduate or Law level students.

LEX 8401 Urban Housing and Community Development: Seminar Cr. 3
Legal, social, and economic aspects of urban housing and community development, including local, state and national programs and policies. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8505 Criminal Justice Externship Practicum Cr. 2
Students perform 150 hours of unpaid work in a criminal prosecutor or defender's office. Students are assigned tasks similar to those performed by entry-level prosecutors and defenders. Students develop advocacy skills, legal drafting skills, law practice management skills, the ability to recognize and resolve strategic and ethical dilemmas, and the ability to learn from experience. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate or Law level students.

LEX 8506 Criminal Justice Externship: Colloquium Cr. 2
Roles and responsibilities of criminal prosecutors and defenders, the judicial process in criminal cases, and strategic and ethical issues in criminal prosecution and defense. Substantial class time is devoted to professional skills instruction and to facilitated discussion and analysis of students' fieldwork observations and experiences. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate or Law level students.

LEX 8507 Judicial Externship: Practicum Cr. 2
Students perform 150 hours of unpaid work in judicial chambers. Students are assigned tasks similar to those performed by judicial clerks. Students develop research, writing, and analysis skills, legal drafting skills, oral communication skills, law practice management skills, and the ability to learn from experience. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate or Law level students.

LEX 8508 Judicial Externship: Colloquium Cr. 2
Students learn about the roles and responsibilities of judges and judicial clerks, judicial decision-making, and effective advocacy. Substantial class time is devoted to professional skills instruction and to facilitated discussion and analysis of students' fieldwork observations and experiences. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate or Law level students.

LEX 8515 Corporate Counsel Externship: Practicum Cr. 2
Students perform 150 hours of unpaid work in corporate counsel offices of non-profit and for-profit entities for two credits. Students are assigned tasks similar to those performed by attorneys in corporate counsel or general counsel offices. The Practicum is an opportunity for students to develop professional skills, including legal analysis and reasoning, contract drafting, problem solving, communication, teamwork, negotiation, and fact-finding. Students will also learn about important workplace issues such as time management, corporate culture, professionalism, and giving and receiving feedback. Grading will be on an Honors, Pass, Low Pass, No Credit basis. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate or Law level students.

LEX 8516 Corporate Counsel Externship: Colloquium Cr. 2
Students will learn about substantive issues encountered in an in-house legal department and the ethical responsibilities of in-house counsel. Substantial class time is devoted to professional skills instruction on topics such as working with outside counsel, conflicts management, contract drafting, and conducting internal investigations. Students will also participate in facilitated discussion and analysis of their fieldwork observations and experiences. Chief legal officers, general counsel, and senior managing attorneys will guest lecture in some classes. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate or Law level students.

LEX 8595 Advanced Externship Cr. 2
A two-credit, letter-graded course for students who will complete a second externship at a different field placement in the same substantive area or at a different division of the same location of their prior placement. Students will complete 150 hours of work at an approved field placement, submit reflective memoranda as assigned, and meet with the Director of Clinical Education, or other designated Faculty Supervisor, at least three times during the semester. Approval will only be granted in the rare circumstances where a student's learning objectives differ significantly from those for the first externship and these learning objectives cannot be met by existing clinical or experiential learning course opportunities. Application process required. Offered Every Term.
Prerequisites: LEX 8506 or LEX 8508 or LEX 8516 or LEX 8599
Restriction(s): Enrollment is limited to Law level students.

LEX 8598 Public Service Externship: Practicum Cr. 2
Students perform 150 hours of unpaid work in public service settings. Students are assigned tasks similar to those performed by entry-level public service lawyers. Students develop interviewing and counseling skills, legal drafting skills, oral communication skills, law practice management skills, and the ability to learn from experience. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate or Law level students.

LEX 8599 Public Service Externship: Colloquium Cr. 2
Students learn about the roles and responsibilities of public service lawyers, strategic, practical, and ethical dimensions of public interest practice, and effective advocacy. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate or Law level students.

LEX 8601 Appeal and Post-Conviction Advocacy Clinic Cr. 4
Clinical legal writing experience. Students will work with indigent clients who are challenging their felony convictions or sentences in state or federal court, in cooperation with the Michigan State Appellate Defender Office (SADO). Students will meet with the instructor in individual sessions and class sessions to discuss writing, investigation, client communication, research and the appellate and correctional processes. Students have client contact and may participate in an actual circuit court argument. Regardless of the court filing in each case, every student must prepare an appellate document (motion and brief, application for leave to appeal, or a memorandum of law) on behalf of his or her client. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8604 Asylum and Immigration Law Clinic Cr. 6
Lawyering skills and values needed to effectively represent clients, and the legal skills and knowledge needed to represent clients seeking asylum or other immigration benefits, including an Immigration Court hearing. Asylum case simulation. Professional responsibility issues. In clinical component, students represent clients on a variety of immigration matters. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students.

LEX 8606 Asylum and Immigration Law Clinic (Advanced) Cr. 2
Students continue to gain increased experience in different settings and issues, and may also organize and participate in community outreach projects. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8607 Civil Rights and Civil Liberties Clinic Cr. 4
Collaborative venture with American Civil Liberties Union (ACLU) of Michigan; opportunity to litigate civil rights and civil liberties impact cases before state and federal courts. Classroom component includes a semester-long simulation of a civil rights case that gives students opportunity to develop professional skills such as interviewing, counseling, drafting pleadings and discovery requests, taking depositions, preparing and arguing motions, and negotiating with opposing counsel. Offered Winter.
Prerequisites: May be taken concurrently: LEX 6800 with a minimum grade of C and May be taken concurrently: LEX 7266 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.
Repeatable for 8 Credits

LEX 8610 Transnational Environmental Law Clinic (Advanced) Cr. 2
Students continue their work with the Environmental Law Clinic, gaining increased experience in different settings an issues; students work with Great Lakes Environmental Law Center and may be involved in formally representing other community organizations and public interest groups. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8611 Transnational Environmental Law Clinic Cr. 6
Skills and strategies needed to affect environmental policy in the three branches of state and federal government. Classroom sessions include current environmental policy challenges and opportunities; guest speakers. Clinical component includes preparation of policy papers and formal legislative testimony, commenting on rulemaking and permit decisions, and engaging in judicial review and enforcement litigation; students work with Great Lakes Environmental Law Center. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8615 Patent Procurement Clinic Cr. 4
Students represent clients in patent procurement matters before the U.S. Patent and Trademark Office, Detroit satellite office. Student work includes interviewing and counseling clients, fact investigation, performing legal research, conducting prior art searches, and drafting and prosecuting patent applications. Skills and values necessary to effectively represent clients in patent procurement matters; exploration of substantive areas of patent law that arise in these matters. Professional responsibility issues commonly faced by patent attorneys, such as conflicts, competence, and confidentiality. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8616 Patent Procurement Clinic (Advanced) Cr. 2
Students in this clinic represent clients in patent procurement matters before the United States Patent and Trademark Office's Detroit, Michigan, Satellite Office. There is no classroom component in the Advanced Patent Procurement Clinic. Students will be expected to spend between five to ten hours per week continuing work on ongoing cases that have significant deadlines during the semester, gaining increased experience in different settings and addressing more complex issues. Advanced Clinic students will also work with PPC faculty to provide direction and guidance to those enrolled in the PPC Clinic for the first time, in areas in which Advanced Clinic students have already acquired some expertise. Time spent in the Advanced Clinic will include a one-hour weekly meeting with the Clinic's faculty to discuss the status of client matters. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8621 Free Legal Aid Cr. 4
The Free Legal Aid Clinic, Inc. (FLAC) is a student-run, non-profit organization with a board of directors composed entirely of current Wayne Law students. FLAC partners with legal services organizations to provide free legal services to low-income people in Wayne County. FLAC students practice under the supervision of legal aid attorneys and law school faculty pursuant to the Michigan Student Practice Rule. Students, who work an average of 12-14 hours per week, are responsible for all aspects of the cases assigned to them, including interviewing clients, drafting pleadings and other court filings, arguing motions, conducting trials and evidentiary hearings, negotiating with opposing counsel, researching legal issues, and drafting legal documents. Students participate in a twice-weekly seminar class for this letter-graded course. Credits earned meet the experiential learning and clinical education requirements. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8622 Free Legal Aid: Advanced Cr. 2
Students continue to work 12-14 hours per week at FLAC, taking on more complex cases and leadership roles within the organization. Students will meet with faculty on a weekly basis to discuss topics such as law practice management and non-profit management, as well as advanced substantive law topics and skills training. Students may also mentor new students and act as teaching assistants for the basic Free Legal Aid course. Limited enrollment, prior faculty approval required. Offered Every Term.
Restriction(s): Enrollment is limited to Law level students.

LEX 8625 Govt Agency Internship Cr. 1-3
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.
Repeatable for 3 Credits

LEX 8627 In-House Counsel Intrnship Cr. 1-3
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.
Repeatable for 3 Credits

LEX 8631 Business and Community Law Clinic Cr. 6
Course component: basic provisions of nonprofit corporate law, tax law, and legal ethics that affect community economic development groups. Clinical component: students assist a community group at or near the stage of incorporating itself and/or applying for tax-exempt status, in services such as drafting and filing articles of incorporation, bylaws, and IRS forms. Students complete term paper on topic of interest to community economic development organizations. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8633 Business and Community Law Clinic (Advanced) Cr. 2
Participation requires demonstrated commitment to business law, community economic development, or nonprofit law. No classroom component; enrollment limited to two students per semester; students spend between five and ten hours a week continuing their work on ongoing cases and meeting significant deadlines during the semester. Advanced Clinic students also work with BCL faculty to provide direction and guidance to those in the BCL Clinic for the first time, in areas in which Advanced Clinic students have already acquired some expertise; as well as coordinate community outreach and informational programs. Includes one hour per week meeting with BCL faculty to discuss the status of client matters. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8641 Disability Law Clinic Cr. 6
Cooperative venture with Wayne County Legal Services. Hands-on experience while helping individuals with disabilities and their families obtain services and support to avoid out-of-home placement at public expense. Students perform 15-20 hours fieldwork per week. Student responsible for 3 to 5 cases: investigating facts, researching law, counseling client, representing client in administrative or judicial proceedings, drafting and arguing appeals, engaging in settlement negotiations. Intake, case acceptance, individual client representation, community education and law reform efforts. Includes two-hour weekly seminar; graded on honors pass-low pass-no credit basis. Credits count toward 14-credit maximum in applied and skills courses. No credit after LEX 8621. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8642 Disability Law Clinic (Advanced) Cr. 2
Students continue their work on cases or projects begun in the Disability Law Clinic that could not be completed in a single term, work on new cases or projects that involve more complex issues or give students opportunities to develop additional skills, or serve as teaching assistants for the Clinic. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8661 Legal Advocacy for People With Cancer (Clinic) Cr. 4-6
Students work with healthcare professionals at the Karmanos Cancer Center to identify and resolve legal issues that present barriers to patient care and wellbeing. Students advise and assist people with cancer in matters pertaining to health insurance, housing, employee rights and benefits, estate and healthcare planning, and public benefits. They develop skills used in a broad range of practice settings: interviewing and counseling, case-management, problem-solving, persuasive fact analysis, legal drafting, negotiation, effective oral communication, and interdisciplinary collaboration. Offered for Law School grading: Honors pass, pass, low pass, no credit. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students.

LEX 8662 Legal Advocacy for People with Cancer Clinic (Advanced) Cr. 2
Continuation of work begun in LEX 8661 which could not be completed in a single term; work on new cases or projects that involve more complex issues or give students opportunities to develop additional skills or serve as teaching assistants for the LAPC Clinic. Students are expected to perform at least 100 hours of clinical work, including regular, frequent meetings with the course instructors. Course does not have a classroom component, but students who serve as teaching assistants are expected to participate in some LAPC classes. Students are requited to document their clinical work through detailed, contemporaneous time logs. Offered Fall, Spring/Summer.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.

LEX 8701 Law Review Cr. 1-2
Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.
Repeatable for 4 Credits

LEX 8711 Moot Court Cr. 1-2
Members conduct, under general faculty supervision, the program in the preparation of briefs and the hearings on oral arguments. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.
Repeatable for 4 Credits

LEX 8721 Mock Trial Cr. 1-2
Members participate in skills training; intraschool, regional, and national trial advocacy competitions. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.
Repeatable for 4 Credits

LEX 8725 Journal of Business Law Cr. 1
The Wayne State Journal of Business Law provides the opportunity for law students the opportunity to edit legal scholarship, to prepare a student note or commentary on a relevant legal topic under the supervision of a Wayne Law professor. Offered Fall, Winter.
Repeatable for 4 Credits

LEX 8731 The Journal of Law in Society Cr. 1
Members contribute to publication of this law journal and the annual symposium. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School.
Repeatable for 4 Credits

LEX 8741 Transactional Law Competition Cr. 1
Practical skills course focused on improving transactional lawyering skills, including drafting agreements, revising agreements, advising clients, and negotiating with transactional attorneys, while exploring important legal/business issues relevant to mergers and acquisitions. During the fall semester, students will participate in an in-house transactional law competition, and during the winter semester, students will participate in the National Transactional LawMeet Competition. Offered Yearly.
Repeatable for 4 Credits

LEX 8815 Fundamentals of US Legal Research Cr. 1
Introduction to U.S. legal research skills for students from foreign jurisdictions, with a focus on the use of electronic resources for legal research. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School; enrollment is limited to students with a major, minor, or concentration in United States Law.

LEX 8875 Survey of United States Law Cr. 3,4
Concise survey of several substantive fields of United States Law (principally in the area of private law) with focus on several core legal topics integral to understanding the U.S. legal system as a whole, and to working with U.S.-trained lawyers. Material drawn from a variety of areas, such as: law of contracts, property, torts, criminal law, and constitutional law. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School; enrollment is limited to students with a major, minor, or concentration in United States Law.

LEX 8890 US Legal Skills for Foreign Law Students Cr. 2
This course will provide foreign-trained lawyers with a working knowledge of the memo-drafting, transactional, and other skills utilized by U.S. Lawyers. Students will draft a legal memorandum, a client letter, and a contract. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students in the Law School; enrollment is limited to students with a major, minor, or concentration in United States Law.

LEX 8999 Master's Essay Direction Cr. 1-2
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate or Law level students; enrollment limited to students with a class of Candidate Masters; enrollment limited to students in the Law School.
Repeatable for 2 Credits

LFA - LIFE FITNESS ACTIVITIES

LFA 1020 Individualized Skills Development Laboratory Cr. 1-2
Offered Fall, Winter.
Repeatable for 4 Credits

LFA 1030 Fitness Infusion Cr. 2
Group exercise combination class that introduces five LFA courses offered in the program: Sculpt, Stretch and Tone; Cardio-Fit Kickboxing; Boot Camp Fitness; Weight Training and Fitness; and Step and Tone. Designed to promote a variety of cardio and resistance training formats. Offered Every Term.
Restriction(s): Enrollment is limited to Undergraduate level students.
Repeatable for 4 Credits

LFA 1035 Fitness Trends Cr. 2
A fitness sampler class offering an introduction to top fitness and physical activity trends. Fitness activities will change annually based on health and fitness trends in the industry. Offered Fall, Winter.
Repeatable for 4 Credits

LFA 1040 Healthy Lifestyle Basics Cr. 2
A study of healthy eating, physical activity, and other lifestyle strategies to promote healthy living and weight management. Students will examine individual health and wellness, identify healthy behaviors, and develop skills to support a healthy lifestyle. Offered Every Term.
Repeatable for 4 Credits

LFA 1100 Swimming: Elementary Cr. 2
Fundamental skills and knowledge in aquatics for beginners. Offered Every Term.
Repeatable for 4 Credits

LFA 1210 Pilates Matwork Cr. 2
Total body exercise program using a series of floor exercises to increase strength, flexibility, stamina and concentration. Exercises are selected based on core strengths and stabilization methods. Offered Every Term.
Repeatable for 4 Credits

LFA 1220 Cardio-Fit Kickboxing Cr. 2
Time-efficient workout that stimulates the cardiorespiratory and musculoskeletal systems. Structured routines for all fitness levels (basic, intermediate, advanced); utilizes only basic kickboxing techniques. Offered Every Term.
Repeatable for 4 Credits

LFA 1230 Basic Toning and Cardio Cr. 2
Total-body resistance exercise program using hand weights, ankle weights, rubber tubing, adjustable step, and other flexible sources of resistance. High-repetition exercises concentrating on proper technique, body alignment, muscular development, sound biomechanical principles. Offered Every Term.
Repeatable for 6 Credits

LFA 1240 Step and Tone Cr. 2
Cardiovascular and muscular endurance and strengthening program using the adjustable step, rubber tubing, and hand-held weights. Low-impact, high-intensity workout. Energy cost controlled by step height, music tempo, tubing tension, size of weights. Offered Every Term.
Repeatable for 4 Credits

LFA 1250 Zumba Cr. 2
Zumba is a fusion of Latin and International music and dance themes; the routines feature easy-to-follow aerobic/fitness interval training with rhythms that tone and sculpt the body. Offered Every Term.
Repeatable for 4 Credits

LFA 1275 Water Aerobics Cr. 2
Cardiovascular and muscular endurance program using water resistance exercises performed to music designed to improve strength, flexibility and overall cardiovascular fitness. Performed in shallow water, this class offers basic, structured drills and routines, with low-impact, variable workout intensities, and use of additional resistance devices. Swimming skills not necessary. Offered Every Term.
Repeatable for 4 Credits

LFA 1280 Piloxing Cr. 2
Offered Every Term.
Restriction(s): Enrollment is limited to Undergraduate level students.
Repeatable for 4 Credits

LFA 1310 Rock Climbing Cr. 2
Provides instruction in the fundamentals of the sport of rock climbing; practical instruction in correct tying of rock climbing knots and other rope work; techniques of safely belaying a climber; and physical climbing techniques. Climbing safety, technique, and equipment will be discussed. No previous experience necessary. Offered Every Term.
Repeatable for 4 Credits

LFA 1315 Boxing Conditioning Cr. 2
A time-efficient workout which stimulates the cardio respiratory and musculoskeletal systems. It offers structured routines for all fitness levels (basic, intermediate, advanced). Utilizes basic boxing techniques. Boxing skills not necessary. Great for improving cardiovascular endurance. Offered Every Term.
Repeatable for 4 Credits

LFA 1320 Total Body Conditioning Cr. 2
Group physical training class that mixes traditional calisthenics and body weight exercises with cardiovascular interval training and strength conditioning. Designed to promote fat loss, camaraderie and team effort. Offered Every Term.
Restriction(s): Enrollment is limited to Undergraduate level students.
Repeatable for 6 Credits

LFA 1330 Floor Hockey Cr. 2
Analysis, development and practice of fundamental skills, team play, strategies and rules of Floor Hockey. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Undergraduate level students.
Repeatable for 4 Credits

LFA 1340 Zero to a 5K Cr. 2
A personalized walking/jogging/running program designed to improve the level of cardio-respiratory condition of the participant, with the ultimate goal of completing a 5K (3.1 miles). Considerations include: nutrition, endurance, strength, proper form and various injury prevention guidelines. Offered Every Term.
Restriction(s): Enrollment is limited to Undergraduate level students.
Repeatable for 4 Credits

LFA 1350 Pocket Billiards: Beginning Cr. 2
Basic skills and technique; history, rules, equipment and game courtesy. Offered Fall, Winter.
Repeatable for 4 Credits

LFA 1410 Golf Cr. 2
Analysis and practice of fundamentals focused on development of correct form in the use of different clubs. Offered Every Term.
Repeatable for 4 Credits

LFA 1420 Dance Fitness Cr. 2
Basic movement techniques to a variety of dance styles for increased cardiovascular fitness. Offered Every Term.
Repeatable for 4 Credits

LFA 1460 Yoga Fusion Cr. 2
Total body exercise program blending yoga, strength, core work, and dance to increase strength, flexibility, stamina and concentration. Offered Fall, Winter.
Repeatable for 4 Credits

LFA 1470 Mindfulness, Fitness and Stress Management Cr. 2
A variety of physical training methods which integrate a mind-body approach to achieve positive changes in physiological measures of physical fitness. Develop healthy coping habits to prevent or reduce stress. Techniques include but are not limited to exercise, yoga, breathing and meditation, and journaling. Offered Every Term.
Repeatable for 4 Credits

LFA 1480 Yoga Cr. 2
Yoga physical exercises to shape and strengthen the human body. Psychosomatic influences used to develop resistance against stress and to train the body and mind to relax. Utilization of auto-suggestion to influence lifestyle. Offered Every Term.
Repeatable for 4 Credits

LFA 1510 Women's Fitness Cr. 2
Students will be taught a variety of different methods of cardio and strength training in a different setting each week. Principles and benefits of cross training will be addressed through participation in a wide variety of activities in the gym, outside, and in the weight room. Offered Every Term.
Repeatable for 4 Credits

LFA 1520 Kickball/Dodgeball Cr. 2
Analysis, development and practice of fundamental skills, team play, strategies and rules of kickball and dodgeball. Offered Every Term.
Restriction(s): Enrollment is limited to Undergraduate level students.
Repeatable for 4 Credits

LFA 1530 Basketball: Fundamental Skills Cr. 2
Analysis and practice of fundamental skills, team play, and rules of basketball. Offered Every Term.
Repeatable for 4 Credits

LFA 1540 Basketball: Shooting Skills and Strategies Cr. 2
Analysis and practice of intermediate and advanced shot-making skills and game strategies. Offered Fall, Winter.
Repeatable for 4 Credits

LFA 1560 Team Sports Sampler Cr. 2
The analysis, development, and practice of fundamental skills, team play and rules of basketball, volleyball, dodgeball, kickball and other team sports. Offered Winter.
Repeatable for 4 Credits

LFA 1640 Strength Training for Beginners Cr. 2
Analysis and practice of sound weight training techniques; discussion of principles that underlie effective resistance exercise programs leading to improved personal fitness. Offered Every Term.
Repeatable for 4 Credits

LFA 1700 Brazilian Jiu Jitsu Cr. 2
Analysis and practice of fundamental skills, movements, and philosophy of Brazilian Jiu Jitsu as a modern martial art, self-defense, and competitive sport. Offered Every Term.
Repeatable for 4 Credits

LFA 1710 Fencing: Beginning Cr. 2
Analysis and practice of skills, rules, strategy, conduct of competitive means. Offered Fall, Winter.
Repeatable for 4 Credits

LFA 1780 Tai Chi Chuan: Beginning Cr. 2
An ancient Chinese exercise, Tai Chi is a series of postures and transitional movements, used to improve balance, strength, circulation, and relaxation. Offered Fall, Winter.
Repeatable for 4 Credits

LFA 1850 Soccer: Beginning Cr. 2
Fundamental playing skills and basic conditional and tactical aspects of the game of soccer. Rules of the game. Offered Every Term.
Repeatable for 4 Credits

LFA 1992 Volleyball: Beginning Cr. 2
Analysis and practice of skills, team play, strategy, rule interpretation. Offered Fall, Winter.
Repeatable for 4 Credits

LFA 2330 First Aid and CPR Cr. 3
Theory and practice of First Aid and CPR. Students can qualify for national certificates in First Aid and CPR. Offered Every Term.
Course Material Fees: $30

LFA 2560 Freshmen Quests Cr. 2
Designed for incoming freshmen to help facilitate the transition to college life, workload, and expectations. During trips, students will be introduced to many faculty/staff from various departments to learn the keys to achieving a successful college career. Offered Fall.
Restriction(s): Enrollment is limited to Undergraduate level students.
Course Material Fees: $75

LGL - LANGUAGE LEARNING

LGL 5750 Theories of Second Language Acquisition Cr. 3
The complex processes involved in learning a foreign/second language, including the nature of inter language and the individual and collective factors influencing learner success and the effectiveness of instruction. Offered Yearly.
Equivalent: ENG 5750, LIN 5750

LGL 5810 Teaching Foreign Languages: Receptive Skills Cr. 3
Current research and theory on acquisition of reading and listening skills in a foreign language applied to classroom instruction. Difference between receptive and productive language use; how methods of foreign language teaching treat the instruction of the receptive skills. Offered Every Other Year.

LGL 5820 Teaching Foreign Languages: Productive Skills Cr. 3
Current research on acquisition of speaking and writing skills in a foreign language. Difference between productive and receptive language use; how various methods of foreign language teaching treat the instruction of productive skills. Offered Every Other Year.

LGL 5830 Technology in the Foreign Language Classroom Cr. 3
Types of current technology; review of research on effectiveness of language classroom technologies; evaluation of technologies; development of activities for use in classroom. Offered Every Other Year.

LGL 5850 Foreign Language Instruction Cr. 3
Theoretical basis of second language teaching models; historical overview of methodologies; current trends in teaching of reading, writing, listening, speaking, and culture. Implications of methodology on materials, classroom techniques, and assessment. Offered Every Other Year.
Equivalent: LED 5850

LGL 5860 Assessment in the Foreign Language Classroom Cr. 3
Means of assessing students' knowledge of a foreign language. Topics include: ACTFL Oral Proficiency Interview; assessment of reading, writing, speaking, listening, vocabulary, grammar and culture; through testing and other forms of assessment. Offered Yearly.

LGL 7810 Teaching Foreign Languages: Receptive Skills Cr. 3
Latest research on acquisition of reading and listening skills in a foreign language. Difference between receptive and productive language use; how methods of foreign language teaching treat the instruction of the receptive skills. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.

LGL 7820 Teaching Foreign Languages: Productive Skills Cr. 3
Current research on acquisition of speaking and writing skills in a foreign language. Difference between productive and receptive language use; how various methods of foreign language teaching treat the instruction of productive skills. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.

LGL 7830 Technology in the Foreign Language Classroom Cr. 3
Types of current technology; review of research on effectiveness of language classroom technologies; evaluation of technologies; development of activities for use in classroom. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.

LGL 7850 Foreign Language Instruction Cr. 3
Theoretical basis of second language teaching models; historical overview of methodologies; current trends in teaching of reading, writing, listening, speaking, and culture. Implications of methodology on materials, classroom techniques, and assessment. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.

LGL 7860 Assessment in the Foreign Language Classroom Cr. 3
Means of assessing students' knowledge of a foreign language. Topics include: ACTFL Oral Proficiency Interview; testing of reading, writing speaking and listening skills; means of testing grammar and culture; testing as it relates to program goals. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.

LGL 7999 Master's Essay Direction Cr. 1-3
Essay course required for degree. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the MA in Language Learning program.
Repeatable for 3 Credits

LIN - LINGUISTICS

LIN 1850 Introductory Symbolic Logic Cr. 3
The logic of propositions; the general logic of predicates and relations. Offered Yearly.
Equivalent: PHI 2850

LIN 1860 Honors Introductory Symbolic Logic Cr. 3
See LIN 1850. Offered Yearly.
Equivalent: PHI 2860

LIN 2000 Chinese Phonetics Cr. 1
Students will have the hands-on experience of learning Chinese sounds and tones with the intensive instruction and correction of the instructor. After studying the articulatory mechanisms for the Chinese phonetic inventory and system in theory, students will practice them in different combinations and contexts with that native accuracy as the target. Offered Winter.
Equivalent: CHI 2000
Repeatable for 2 Credits

LIN 2720 Basic Concepts in Linguistics Cr. 3
Satisfies General Education Requirement: Cultural Inquiry, Philosophy Letters
Analysis of the structure and use of language, focusing on English, from the standpoint of current linguistic practice. Topics include: phonetics and sound structure, word structure, syntax, semantics, language origin and history, dialects, language learning, animal communication, and language in social interaction. Offered Yearly.
Equivalent: ENG 2720

LIN 2730 Languages of the World Cr. 3
Satisfies General Education Requirement: Foreign Culture, Global Learning Inquiry
Survey of structure of major language families of the world, western and non-western; interrelationships of language and culture; universals and variations of universals in language and culture. Offered Yearly.
Equivalent: ENG 2730

LIN 3080 Cognitive Psychology: Fundamental Processes Cr. 3
Fundamental theories, concepts, and empirical findings in study of human cognition. Topics include: thinking, problem solving, language comprehension and production, memory and attention. Offered Yearly.
Prerequisites: PSY 1010 with a minimum grade of D- or PSY 1020 with a minimum grade of D-
Equivalent: PSY 3080

LIN 3310 Language and Culture Cr. 3
An introduction to linguistic anthropology. Using comparative approaches to language and culture across time and space, explore variation and change, cognitive dimensions of language, language evolution, linguistic myths, and the use of language in social practice. Offered Fall.
Prerequisites: ANT 2100 with a minimum grade of D- or LIN 2720 with a minimum grade of D-
Restriction(s): Enrollment is limited to Undergraduate level students.
Equivalent: ANT 3310

LIN 3700 Structure of English Cr. 3
Survey of the major structural features of Standard English at the levels of sounds, words, and sentences, using concepts and methods from the field of linguistics. Special attention to relation of spoken to written English. Offered Yearly.
Equivalent: ENG 3700

LIN 5050 Advanced Symbolic Logic Cr. 4
Formal, extensive treatment of first-order predicate logic with emphasis on the notions of a formal logical language and truth in a model; the logic of identity; definite descriptions; brief introductions to set theory and the metatheory of propositional and first-order logic; some additional advanced topics to be selected by the instructor. Offered Yearly.
Equivalent: PHI 5050

LIN 5080 Phonetics Cr. 3
Multisensory study of sounds in the English language, emphasizing acoustic, physiologic, kinesiologic approaches. Offered Fall, Winter.
Course Material Fees: $12
Equivalent: SLP 5080

LIN 5100 Languages of Asia Cr. 3
Introduction to major language families in Asia; grammar, sounds, language contacts. Offered Winter.
Equivalent: CHI 5220, JPN 5220

LIN 5110 Teaching of Arabic as a Foreign/Second Language (TAFL) Cr. 3
Theoretical and conceptual framework of second language learning. Proper training in pedagogy as related to learning Arabic as a foreign/second language. Offered Yearly.
Equivalent: ARB 5100, NE 5100

LIN 5200 Modal Logic Cr. 4
The logic of necessity, possibility, and other modal notions as they occur in epistemic and deontic contexts. Propositional and quantified modal logic. Offered Every Other Year.

LIN 5210 Arabic Sociolinguistics Cr. 3
Arabic dialectology; Arabic as a minority language in contact. Theories and techniques developed outside Arabic, and their applicability to Arabic situations. Offered Fall.
Equivalent: ARB 5210, NE 5210

LIN 5220 Introduction to Chinese Linguistics Cr. 3
Writing, sound and grammar systems of Chinese; interaction between Chinese language and Chinese society. Offered Fall.
Equivalent: CHI 5210

LIN 5230 Structure of Arabic Cr. 3
Survey of historical constitution and theoretical structure of Arabic. Offered Yearly.
Equivalent: ARB 5230, NE 5230

LIN 5240 Grammar of Chinese Cr. 3
Chinese grammar from perspectives of negation, question formation, aspects and different parts of speech, and the like. Offered Fall.
Equivalent: CHI 5230

LIN 5290 Phonology Cr. 3
The sound systems of a variety of human languages compared and contrasted in an introduction to the diversity and similarities in human sound systems. Theories of the nature of sound systems and methods of analysis in phonology and morphophonology will be presented. Offered Yearly.
Prerequisites: LIN 5700 with a minimum grade of D- or ENG 5700 with a minimum grade of D- or LIN 2720 with a minimum grade of D- or ENG 2720 with a minimum grade of D-
Equivalent: ENG 5710

LIN 5300 Syntax Cr. 3
The theory of grammatical systems examined through analysis of sentence formation in a variety of human languages, diversity and universals in grammar, and theories of syntax. Offered Yearly.
Prerequisites: LIN 5700 with a minimum grade of D- or ENG 5700 with a minimum grade of D- or LIN 2720 with a minimum grade of D- or ENG 2720 with a minimum grade of D-
Equivalent: ENG 5740

LIN 5320 Language and Societies Cr. 3
For graduate students and advanced undergraduates with a background in linguistic anthropology. Students read classic and contemporary works of linguistic anthropology to expand knowledge of human language and sociality; conduct a major original research project. Offered Winter.
Prerequisites: ANT 3310 with a minimum grade of D- or LIN 3310 with a minimum grade of D-
Equivalent: ANT 5320

LIN 5360 Normal Language Acquisition and Usage Cr. 3
Language development in children and the associated areas of emotional and motor development; language stimulation techniques and programs. Offered Fall, Spring/Summer.
Course Material Fees: $10
Equivalent: SLP 5320

LIN 5570 Philosophy of Language Cr. 4
Intensive investigation and discussion of philosophical problems concerning meaning, truth, and the nature of language. Offered Every Other Year.
Prerequisites: 1 of PHI 2400, PHI 2550, PHI 3500, PHI 3550, PHI 3600, PHI 5230, PHI 5500, PHI 5530, PHI 5550, PHI 5570, PHI 5630, PHI 5640 and PHI 1850 with a minimum grade of D- or PHI 1860 with a minimum grade of D-
Equivalent: PHI 5570

LIN 5700 Introduction to Linguistic Theory Cr. 3
Introduction to the scientific study of language and methodologies of linguistic analysis: phonetics and phonology, morphology, syntax and semantics. Offered Yearly.
Equivalent: ENG 5700

LIN 5715 Morphology Cr. 3
Morphology is a core area of Linguistics. The course will introduce the basic issues in the study of the internal structure of words, as well as the analytical techniques applied to morphological analysis. Students will learn how to analyze words of various (Indo-European and non-Indo-European) languages into morphemes, as well as to recognize morphological patterns and to utilize theoretical concepts in order to describe and analyze such patterns. In particular, the course will develop a theory of morphology in generative grammar, paying special attention to the question of whether particular morphological phenomena are primarily syntactic or primarily phonological in nature. Offered Fall.
Prerequisites: ENG 5700 with a minimum grade of D- or ENG 2720 with a minimum grade of D- or LIN 2720 with a minimum grade of D- or LIN 5700 with a minimum grade of D-
Equivalent: ENG 5715

LIN 5720 Linguistics and Education Cr. 3
Introduction to linguistics with emphasis on applications to education. Offered Yearly.
Equivalent: ENG 5720

LIN 5730 English Grammar Cr. 3
Comprehensive analysis of English sentence structure and parts of speech using the terminology and descriptive approach of traditional grammar. Offered Yearly.
Equivalent: ENG 5730

LIN 5745 Semantics Cr. 3
Semantics is a core area of Linguistics. This course investigates meaning in natural language. It examines two foundational assumptions of natural language semantics: (i) that the meaning of a declarative sentence is its truth conditions and (ii) that the truth conditions of an expression are determined compositionally (that is, they are determined as a function of its parts and how they are put together). Students will then learn to distinguish between the entailments, implicatures, and presuppositions of an expression, where only the first are part of the expression's truth conditions. Offered Winter.
Prerequisites: ENG 5700 with a minimum grade of D- or ENG 2720 with a minimum grade of D- or LIN 2720 with a minimum grade of D- or LIN 5700 with a minimum grade of D-
Equivalent: ENG 5745

LIN 5750 Theories of Second Language Acquisition Cr. 3
The complex processes involved in learning a foreign/second language, including the nature of inter language and the individual and collective factors influencing learner success and the effectiveness of instruction. Offered Yearly.
Equivalent: ENG 5750, LGL 5750

LIN 5760 American Dialects Cr. 3
Survey of chief social and geographic dialects of American English and introduction to theory of language variation. Offered Intermittently.
Equivalent: ENG 5760

LIN 5770 Sociolinguistics Cr. 3
Identification of sociolinguistic principles used by English speakers and writers in choosing among the different English codes, styles, registers and social dialects in American and other communities. Offered Every Other Year.
Equivalent: ENG 5770

LIN 5900 Culture, Language and Cognition Cr. 3
Systematic investigation of the relationships among, language, cognition and culture, including issues relating to human universals, cross-cultural concept formation, metaphor, classification and the evolution of cognition and language. Offered Every Other Winter.
Prerequisites: ANT 3310 with a minimum grade of D- or ANT 5320 with a minimum grade of D- or LIN 3310 with a minimum grade of D- or LIN 5320 with a minimum grade of D- or LIN 3080 with a minimum grade of D- or PSY 3080 with a minimum grade of D-
Restriction(s): Enrollment is limited to Graduate or Undergraduate level students.
Equivalent: ANT 5900, PSY 5900

LIN 5993 Writing Intensive Course in Linguistics Cr. 0
Satisfies General Education Requirement: Writing Intensive Competency
Disciplinary writing assignments under the direction of a faculty member. Must be selected in conjunction with a corequisite course; see section listing in Schedule of Classes for corequisites available each term. Satisfies the University General Education Writing Intensive Course in the Major requirement. Intensive training in literature search, linguistic analysis, and the preparation of scholarly written work. Required for all majors. Offered Every Term.
Prerequisites: May be taken concurrently: LIN 5210 or LIN 5320 or LIN 5750 or LIN 5760 or LIN 5770 or LIN 6720 or AFS 2390 with a minimum grade of C or ENG 2390 with a minimum grade of C or ENG 3010 with a minimum grade of C or ENG 3020 with a minimum grade of C or ENG 3050 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students.

LIN 6700 History of Arabic Cr. 3
History of the evolution of Arabic. Data from phonetics/phonology and morpho-syntax will form the basis of study. Offered Fall.
Equivalent: ARB 6700

LIN 6710 Psycholinguistics Cr. 3
Theory and research in various topics in psycholinguistics, including language development, speech perception and production, and language comprehension. Offered Intermittently.
Equivalent: PSY 6710

LIN 6720 Topics in Language Cr. 3
Topics such as: pragmatics, historical linguistics, history of English, language and gender, language and variation, language and evolution. Topics to be announced in the Schedule of Classes. Offered Yearly.
Equivalent: ENG 6720, LIN 5720
Repeatable for 12 Credits

LIN 7010 Acoustics of Speech Cr. 3
Acoustic consequences of phonetically-relevant articulatory movements. Offered Intermittently.
Prerequisites: SLP 5080 or SLP 5090
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: SLP 7010

LIN 7300 Comparative Romance Linguistics Cr. 3
Historical development and earliest texts in the Romance languages: Latin substrata, historical diffusion, Vulgar Latin, linguistic borrowings, classification, and characteristics of the various Romance languages. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.

LIN 7320 Seminar in Hispanic Linguistics Cr. 3
Seminar topics will vary according to the principal divisions of Spanish linguistics: phonology, morphology, lexicography, syntax, and dialectology. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: SPA 8420
Repeatable for 9 Credits

LIN 7665 Seminar in Linguistic Anthropology Cr. 3
Central concepts and theories. Current developments, problems and contemporary research orientations. Topics to be announced in Schedule of Classes. Offered Intermittently.
Prerequisites: ANT 5320 with a minimum grade of C or LIN 5320 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: ANT 7665

LIN 7710 Advanced Studies in Linguistic Structure Cr. 3
Current issues in linguistic theory, including but not limited to topics in phonology, morphology, syntax, semantics. Topics to be announced in the Schedule of Classes. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: ENG 7710
Repeatable for 9 Credits

LIN 7720 Advanced Studies in Language Use Cr. 3
Current problems in language use, including issues in language variation, pidgins and creoles, first language acquisition, perception and production, and linguistic stylistics. Topics to be announced in the Schedule of Classes. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: ENG 7720
Repeatable for 9 Credits

LIN 7770 Discourse Analysis Cr. 3
Analysis of inter-sentential relationships and of larger patterns. Implied and actual exchanges. Information ordering. Multi-level and intersectional analysis of expository prose. Topics to be announced in the Schedule of Classes. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: ENG 7770
Repeatable for 9 Credits

LIN 7991 Directed Study in Linguistics Cr. 1-9
A research problem which requires field work or intensive and systematic reading of original technical literature. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: ANT 7991
Repeatable for 9 Credits

LIN 7999 Master's Essay Direction Cr. 1-3
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students with a class of Candidate Masters.

MAE - MATHEMATICS EDUCATION

MAE 1000 Detroit by the Numbers Cr. 3
Satisfies General Education Requirement: Quantitative Experience Comp
Designed for students to experience mathematics as doable, meaningful, and relevant to their lives. Students will study the city of Detroit by analyzing data and reasoning through quantitative tools presented by local agencies, such as health, environment, education, arts, and sports. Offered Every Term.

MAE 5100 Geometry for Middle School Teachers Cr. 3
Development of Euclidean geometry as a mathematical system; related historical topics; introduction to other geometries; selected topics such as transformations and tessellations. No credit toward a major or minor for secondary mathematics teaching. Offered Yearly.
Prerequisites: MAT 1110 with a minimum grade of C- and MAT 1120 with a minimum grade of C-
Equivalent: MAT 5180

MAE 5110 Number Theory for Middle School Teachers Cr. 3
Topics from elementary theory of numbers which underlie middle school mathematics; historical connections; role of abstraction and proof in mathematics. No credit toward a major or minor for secondary mathematics teaching. Offered Yearly.
Prerequisites: MAT 1800 with a minimum grade of C- or MAT 1120 with a minimum grade of C-
Equivalent: MAT 5190

MAE 5120 Abstract Algebra for Middle School Teachers Cr. 3
Topics from elementary abstract algebra underpinning middle school mathematics curriculum; historical connections; role of abstraction and proof in mathematics. No credit towards major in mathematics or secondary mathematics. Offered Yearly.
Prerequisites: MAT 1120 with a minimum grade of C- and MAT 1800 with a minimum grade of C-
Equivalent: MAT 5120

MAE 5130 Problem Solving for Middle School Teachers Cr. 3
Development of mathematical problem solving in middle grades mathematics education; study of non-routine problems; problem solving strategies; historical connections; connections to selected mathematics content and to topics in other disciplines. No credit towards a mathematics major or secondary mathematics education major. Offered Yearly.
Prerequisites: MAT 1120 with a minimum grade of C- and MAT 1800 with a minimum grade of C-
Equivalent: MAT 5130

MAE 5150 Methods and Materials of Instruction: Secondary School Mathematics Cr. 3
Mathematics in secondary school; major concepts of secondary school mathematics; methods and instructional materials; classroom administration; modern trends. Offered Yearly.
Restriction(s): Enrollment limited to students in the College of Education.

MAE 6050 Teaching Mathematics in the Middle Grades Cr. 3
Creative use of resources and materials for improving the mathematics competencies of middle school and junior high school students; organizing the mathematics classroom for effective instruction; promising trends; related research. Offered Yearly.
Restriction(s): Enrollment limited to students in the College of Education.

MAE 6150 Special Topics Cr. 1-6
Current issues and trends; areas of neglected content; curriculum proposals; related research. Topics to be announced in Schedule of Classes. Offered Intermittently.
Repeatable for 12 Credits

MAE 6200 Teaching Arithmetic, Algebra and Functions from an Advanced Perspective Cr. 3
Students gain profound understanding of K-12 mathematics. Concepts underlying topics and procedures; their connections to higher mathematics. Teaching with Simplify; application of mathematical understanding to teaching practices. Offered Yearly.
Prerequisites: MAT 5120 or MAT 6170 or MAT 6180
Equivalent: MAT 6200

MAE 6210 Teaching Geometry, Probability and Statistics, and Discrete Mathematics from an Advanced Perspective Cr. 3
Historical perspectives, common conceptions and misconceptions, applications, technology, and mathematical connections relative to teaching geometry (including trigonometry), probability and statistics, and discrete mathematics in secondary school. Offered Yearly.
Equivalent: MAT 6210

MAE 6400 Elementary School: Mathematics Curriculum and Assessment Cr. 3
Developing competence in school mathematics programs: objectives, procedures, materials, organizational patterns, evaluation. Offered Every Term.

MAE 6450 Integrating Literature and Mathematics in the Elementary School Cr. 3
Examining the potential of literature for exploration of various mathematical concepts and relationships. Offered Spring/Summer.

MAE 7150 Advanced Studies in Teaching Discrete Mathematics Cr. 3
Nature of discrete mathematics and its applications, incorporating discrete topics in school mathematics. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.

MAE 7200 Advanced Studies in Teaching Statistics and Probability Cr. 3
Techniques for teaching statistics and probability in grades K-12; promising materials and activities; research on the learning and teaching of statistics and probability; related resources; review of basic concepts. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.

MAE 7250 Advanced Studies in Teaching Algebra Cr. 3
Fundamental concepts of algebra for a modern secondary school mathematics program; current trends and experimental programs; related research; methods and materials of instruction. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.

MAE 7300 Advanced Studies in Teaching Geometry Cr. 3
Role of geometry and trigonometry in secondary school mathematics; selection of major concepts; development of postulational thinking; teaching procedures emphasizing modes of thinking in mathematics; modern trends. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.

MAE 7400 Seminar in Mathematics Education Cr. 3
Recent research in mathematics education; implications for learning and teaching, K-12. Topics to be announced in Schedule of Classes. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 9 Credits

MAE 8400 Technology in Mathematics Learning and Teaching Cr. 3
Recent research on the use of technology in mathematics education; implications for learning and teaching mathematics, K-12. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.

MAT - MATHEMATICS

For details on Mathematics prerequisite requirements, please see the Mathematics Placement Information (p. 272) ***section of this bulletin, or the Mathematics Placement Exam*** (http://testing.wayne.edu/register/math-placement-exam.php) ***information provided by the Office of Testing, Evaluation and Research Services.***

MAT 0900 Essentials of Mathematics Cr. 5
Review of arithmetic, integers, fractions, decimals, percents, ratios. Algebra: solving equations and inequalities, algebraic expressions, graphing, and problem solving. No credits apply toward degree. Offered Every Term.
Restriction(s): Enrollment is limited to Undergraduate level students.

MAT 0993 Beginning Algebra Cr. 3,5
Satisfies General Education Requirement: Web Based Course
Review of arithmetic, integers, fractions, decimals, percents, ratios. Algebra: solving equations and inequalities, algebraic expressions, graphing, problem solving. No credits apply toward degree. Offered Every Term.
Course Material Fees: $124

MAT 0995 Intermediate Algebra Cr. 3
Exponents and radicals, solving polynomial and other types of equations and inequalities, graphs and systems of linear equations, introduction to functions, elementary geometry. No credits apply toward degree. Offered Every Term.
Prerequisites: MAT 0993 with a minimum grade of CNC (must be taken at WSU) or MAT Permit to Reg ACT/SAT with a test score minimum of 2-4 or Math Permit to Reg - L1-L4 with a test score minimum of 2-4
Restriction(s): Enrollment is limited to Undergraduate level students.
Course Material Fees: $124

MAT 1000 Mathematics in Today's World Cr. 3
Satisfies General Education Requirement: Quantitative Experience Comp
An exploration of current applications of mathematics, such as gerrymandering, consumer mathematics, cryptography, identification numbers, art, music, statistical design, optimal decision making, and risk assessment. Offered Every Term.
Restriction(s): Enrollment is limited to Undergraduate level students.

MAT 1050 Algebra With Trigonometry Cr. 5,7
Satisfies General Education Requirement: Quantitative Experience Comp
Algebra: properties of the real number system, equations and inequalities, lines, graphs, introduction to functions, exponents, logarithms. Geometry and trigonometry: basic concepts, introduction to trigonometric functions, solving right triangles. Mathematics, mathematics education, science, and engineering majors should elect the 7-credit version of this course. If elected for 5 credits, only 2 credits apply toward degree; if elected for 7 credits, only 3 credits apply toward degree. Offered Every Term.
Prerequisites: MAT 0993 with a minimum grade of CNC (must be taken at WSU) or MAT Permit to Reg ACT/SAT with a test score minimum of 2-4 or Math Permit to Reg - L1-L4 with a test score minimum of 2-4

MAT 1110 Mathematics for Elementary School Teachers I Cr. 3
Satisfies General Education Requirement: Quantitative Experience Comp
Problem solving, sets, functions, reasoning, number theory, whole numbers, integers, fractions, decimals. Offered Fall, Winter.
Prerequisites: MAT 1050-6999 with a minimum grade of C- (must be taken at WSU) or MAT 0995 with a minimum grade of CNC (must be taken at WSU) or Math Permit to Reg - L1-L4 with a test score minimum of 3-4 or MAT Permit to Reg ACT/SAT with a test score minimum of 3-4

MAT 1120 Mathematics for Elementary School Teachers II Cr. 3
Satisfies General Education Requirement: Quantitative Experience Comp
Statistics, probability, geometry, and measurement. Offered Fall, Winter.
Prerequisites: MAT 1110 with a minimum grade of C- (must be taken at WSU) or MAT Permit to Reg ACT/SAT with a test score minimum of 3-4 or Math Permit to Reg - L1-L4 with a test score minimum of 3-4

MAT 1500 College Algebra for the Social and Management Sciences Cr. 3
Satisfies General Education Requirement: Quantitative Experience Comp
Equations and inequalities, graphs and functions, polynomial and rational functions, exponential and logarithmic functions. Offered Every Term.
Prerequisites: MAT 1050 with a minimum grade of C- (must be taken at WSU) or MAT 0995 with a minimum grade of CNC (must be taken at WSU) or MAT Permit to Reg ACT/SAT with a test score minimum of 3-4 or Math Permit to Reg - L1-L4 with a test score minimum of 3-4
Course Material Fees: $124

MAT 1800 Elementary Functions Cr. 4
Satisfies General Education Requirement: Quantitative Experience Comp
Basic definition and concept of function. Definitions, properties and graphs of polynomial, rational, exponential, logarithmic, trigonometric, and inverse trigonometric functions. Only two degree credits after MAT 1500. Offered Every Term.
Prerequisites: MAT 1050 with a minimum grade of C- (must be taken at WSU) or MAT Permit to Reg ACT/SAT with a test score minimum of 3-4 or Math Permit to Reg - L1-L4 with a test score minimum of 3-4

MAT 1990 Precalculus Workshop Cr. 2
Students work cooperatively in groups to solve challenging problems related to precalculus. Learning is through discovery rather than by lecture. Offered Every Term.

MAT 2010 Calculus I Cr. 4
Satisfies General Education Requirement: Quantitative Experience Comp
Calculus as the study of change. Definitions, concepts, and interpretations of the derivative and the definite and indefinite integrals; differentiation, integration, applications. No credit after former MAT 1510. Offered Every Term.
Prerequisites: MAT 1800 with a minimum grade of C- (must be taken at WSU) or MAT Permit to Reg ACT/SAT with a test score minimum of 4 or Math Permit to Reg - L1-L4 with a test score minimum of 4

MAT 2020 Calculus II Cr. 4
Satisfies General Education Requirement: Quantitative Experience Comp
Review definition of definite integral and fundamental theorem of calculus. Techniques of integration; approximate integration; improper integrals; applications of integration. Sequences and series. Approximating functions by polynomials and Taylor series. Offered Every Term.
Prerequisites: MAT 2010 with a minimum grade of C-

MAT 2030 Calculus III Cr. 4
Multivariable calculus with applications. Vectors and vector functions in two and three dimensions; functions of several variables; differentiation; integration; vector calculus. Offered Every Term.
Prerequisites: MAT 2020 with a minimum grade of C-

MAT 2110 Calculus Workshop I Cr. 2
Students work cooperatively in groups to solve challenging problems related to calculus. Learning is through discovery rather than by lecture. Offered Every Term.
Prerequisite: MAT 2010 (may be taken concurrently) with a minimum grade of C-

MAT 2120 Calculus Workshop II Cr. 2
Students work cooperatively in groups to solve challenging problems related to calculus. Learning is through discovery rather than by lecture. Offered Winter.
Prerequisite: MAT 2020 (may be taken concurrently) with a minimum grade of C-

MAT 2150 Differential Equations and Matrix Algebra Cr. 4
Differential equations and applications; basic operations of matrices from linear algebra. Only one degree credit after MAT 2350. Offered Every Term.
Prerequisites: MAT 2030 with a minimum grade of C-

MAT 2250 Elementary Linear Algebra Cr. 3
Topics include: systems of linear equations, matrices, vector spaces, basis, dimension, inner products, linear transformations and eigenvalues. Applications presented. Offered Every Term.
Prerequisites: MAT 2020 with a minimum grade of C-

MAT 2350 Elementary Differential Equations Cr. 3
Topics include: first order equations, higher order linear equations, Laplace transforms, linear systems. Applications presented throughout the course. No degree credit after MAT 2150. Offered Every Term.
Prerequisites: MAT 2030 with a minimum grade of C- and MAT 2250 with a minimum grade of C-

MAT 2860 Discrete Mathematics Cr. 3
Foundations of mathematics: logic and mathematical reasoning; sets, functions, sequences; the integers and the Euclidean algorithm; induction, recursive definitions and recurrence relations; graphs. Combinatorics. Graph theory. Boolean algebra. No credit after former MAT 1860 or 1870. Offered Yearly.
Prerequisites: MAT 2010 with a minimum grade of C-

MAT 3430 Applied Differential and Integral Calculus Cr. 4
Limits, derivatives, applications of derivatives, definite integrals and their applications, and trigonometric functions. No degree credit in College of Liberal Arts and Sciences. Offered Every Term.
Prerequisites: MAT 1800 with a minimum grade of C-
Equivalent: ET 3430

MAT 3450 Applied Calculus and Differential Equations Cr. 4
Continuation of MAT/ET 3430, including logarithmic and exponential functions, first and second order ordinary differential equations, vectors, polar coordinates, Laplace transforms, Taylor series, and Fourier series. No degree credit in College of Liberal Arts and Sciences. Offered Every Term.
Prerequisites: ET 3430 with a minimum grade of C- or MAT 3430 with a minimum grade of C-
Equivalent: ET 3450

MAT 4990 Directed Study: Honors Program Cr. 1-4
Offered Intermittently.
Repeatable for 8 Credits

MAT 5000 Fundamental Concepts of Mathematics and Proof Writing Cr. 3
Fundamental concepts: basic logic, basic set theory, functions, equivalence relations. Proof: methods of proof, structures of proofs, proof-writing in a variety of mathematical subjects. Not considered a 5000+ level course for undergraduate degree requirements in mathematics; no credit towards graduate degree in mathematics. Offered Fall, Winter.
Prerequisites: MAT 2250 with a minimum grade of C- or MAT 2860

MAT 5070 Elementary Analysis Cr. 4
Topics include: the real numbers, cardinality, sequences, limits, continuity, uniform continuity, differentiation, integration. Offered Fall, Winter.
Prerequisites: 1 of MAT 2250, MAT 2350, MAT 2150 and MAT 2030 with a minimum grade of C- and MAT 2150 with a minimum grade of C- or MAT 2250 with a minimum grade of C- or MAT 2350 with a minimum grade of C-

MAT 5100 Numerical Methods I Cr. 3
Numerical errors; solutions of nonlinear equations; polynomial interpolation; numerical approximation; numerical integration and differentiation; numerical solutions of systems of linear equations; numerical solutions of ordinary differential equations. Offered Yearly.
Prerequisites: 1 of CSC 1100, BE 1500 and MAT 2030 with a minimum grade of C- and MAT 2250 with a minimum grade of C- and BE 1500 with a minimum grade of C- or CSC 1100 with a minimum grade of C- and CSC 1101 with a minimum grade of C-

MAT 5110 Numerical Methods II Cr. 3
Numerical linear algebra topics, including eigenvalue problems, conjugate-gradient method, GMRES method; numerical solution of ordinary differential equations, Runge-Kutta methods; numerical solutions of partial differential equations, finite difference methods. Offered Winter.
Prerequisites: MAT 5100 with a minimum grade of C- and MAT 2150 with a minimum grade of C- or MAT 2350 with a minimum grade of C-

MAT 5120 Abstract Algebra for Middle School Teachers Cr. 3
Topics from elementary abstract algebra underpinning middle school mathematics curriculum; historical connections; role of abstraction and proof in mathematics. No credit towards major in mathematics or secondary mathematics. Offered for undergraduate credit only. Offered Fall, Winter.
Prerequisites: MAT 1120 with a minimum grade of C- and MAT 1800 with a minimum grade of C-
Restriction(s): Enrollment is limited to Undergraduate level students.
Equivalent: MAE 5120

MAT 5130 Problem Solving for Middle School Teachers Cr. 3
Development of mathematical problem solving in middle grades mathematics education; study of non-routine problems; problem solving strategies; historical connections; connections to selected mathematics content and to topics in other disciplines. No credit towards a mathematics major or secondary mathematics education major. Offered for undergraduate credit only. Offered Spring/Summer.
Prerequisites: MAT 1120 with a minimum grade of C- and MAT 1800 with a minimum grade of C-
Restriction(s): Enrollment is limited to Undergraduate level students.
Equivalent: MAE 5130

MAT 5180 Geometry for Middle School Teachers Cr. 3
Development of Euclidean geometry as a mathematical system; related historical topics; introduction to other geometries; selected topics such as transformations and tessellations. No credit toward a major or minor for secondary mathematics teaching. Offered for undergraduate credit only. Offered Fall, Winter.
Prerequisites: MAT 1110 with a minimum grade of C- and MAT 1120 with a minimum grade of C-
Restriction(s): Enrollment is limited to Undergraduate level students.
Equivalent: MAE 5100

MAT 5190 Number Theory for Middle School Teachers Cr. 3
Topics from elementary theory of numbers which underlie middle school mathematics; historical connections; role of abstraction and proof in mathematics. No credit toward a major or minor for secondary mathematics teaching. Offered for undergraduate credit only. Offered Fall, Winter.
Prerequisites: MAT 1800 with a minimum grade of C- or MAT 1120 with a minimum grade of C-
Restriction(s): Enrollment is limited to Undergraduate level students.
Equivalent: MAE 5110

MAT 5210 Advanced Calculus Cr. 4
Functions of many variables; limits, continuity; differentiation, mean value theorems; implicit and inverse function theorems; extremal problems, Lagrange multipliers; fixed-point methods; Taylor series; Fourier series, uniform convergence; improper integrals. Offered Yearly.
Prerequisites: MAT 2250 with a minimum grade of C-

MAT 5220 Partial Differential Equations Cr. 4
Partial differential equations of mathematical physics; method of separation of variables; Fourier series; Sturm-Liouville eigenvalue problems; boundary-value problems; method of eigenfunction expansion. Optional topics include: Green's functions; solutions by Fourier transform; method of characteristics. Offered Every Other Year.
Prerequisites: MAT 5070 with a minimum grade of C-

MAT 5230 Complex Variables and Applications Cr. 4
Cauchy-Riemann equations; elementary functions; mappings by elementary functions; the Cauchy integral formula; Morera's theorem; Taylor series; Laurent series; residues and poles; conformal mappings. Optional topics: improper integrals, the Schwarz-Christoffel transformations; potential theory; applications to differential and integral equations. No credit after MAT 6600. Offered Every Other Year.
Prerequisites: MAT 5070 with a minimum grade of C-

MAT 5280 Methods of Differential Equations Cr. 3
Linear nth order differential equations; linear systems of differential equations (constant and periodic coefficients); oscillation and comparison theorems for second order differential equations; boundary value problems; stability theory (Liapunov's direct method and frequency domain stability criteria); asymptotic solutions; autonomous non-linear systems; classification of singularities. Offered Every Other Year.
Prerequisites: MAT 2150 with a minimum grade of C- or MAT 2350 with a minimum grade of C-

MAT 5350 Logical Systems I Cr. 4
Metaresults concerning formal systems of sentential and first-order logics; soundness, completeness; independence of axioms; introduction to recursive functions; formalization of elementary arithmetic; discussion of Godel's incompleteness theorem and Church's Theorem. Offered Every Other Year.
Prerequisites: MAT 5600 with a minimum grade of C- or PHI 2850 with a minimum grade of C- or PHI 2860 with a minimum grade of C- or PHI 5050 with a minimum grade of C- or MAT 5420 with a minimum grade of C-
Equivalent: PHI 5350

MAT 5400 Elementary Theory of Numbers Cr. 3
Primes and the Fundamental Theorem of Arithmetic; greatest common divisor, least common multiple, Euclidean Algorithm; congruences, theorems of Fermat, Wilson and Euler; arithmetic functions; linear Diophantine equations; quadratic congruences and the Law of Quadratic Reciprocity. Optional topics include: applications to cryptography, perfect numbers, primitive roots and indices, Fibonacci numbers, Pythagorean triples, sums of squares, continued fractions. Offered Yearly.
Prerequisites: MAT 2030 with a minimum grade of C- and MAT 2250 with a minimum grade of C-

MAT 5410 Applied Linear Algebra Cr. 4
Gaussian elimination, vector spaces, the four fundamental subspaces, orthogonality, least squares approximation, determinants, eigenvalues and eigenvectors, positive definite matrices, singular value decomposition, linear transformations, complex matrices. Applications such as differential and difference equations, Markov processes, graphs and networks, Fourier series, computer graphics, numerical linear algebra. Offered Every Other Year.
Prerequisites: MAT 2030 with a minimum grade of C- and MAT 2250 with a minimum grade of C-

MAT 5420 Algebra I Cr. 4
Abstract concepts: sets, mappings, equivalence relations, induction, general methods of proof. Group theory: groups, subgroups, cyclic groups, direct products, cosets, Lagrange's Theorem, quotient groups, homomorphisms, permutation groups. Rings and fields (basic definitions). Only two credits apply after either MAT 6170 or 6180; no credit after both MAT 6170 and 6180. Offered Fall, Winter.
Prerequisites: MAT 2030 with a minimum grade of C- and MAT 2250 with a minimum grade of C-

MAT 5430 Algebra II Cr. 4
Group theory continued: Sylow Theorems, finite abelian groups. Ring theory: rings, integral domains, fields of quotients, homomorphisms, ideals, quotient rings, P.I.D.s, U.F.D.s, polynomial rings. Advanced topics in linear algebra: canonical forms. Field theory: extensions, splitting fields, finite fields, geometric constructions. Offered Fall, Winter.
Prerequisites: MAT 5420 with a minimum grade of C-

MAT 5520 Introduction to Topology Cr. 3
An introduction to topology, mostly through an intuitive approach. Topics chosen from among: topological equivalence and topological properties, complexes, Euler characteristic, connectedness, compactness, continuity, Brouwer's Fixed Point Theorem, vector fields, Hairy Ball Theorem, n-dimensional spaces, classification of surfaces, cut and paste techniques, the Moebius band, orientability, the fundamental group. No credit toward graduate degree in mathematics or statistics. Offered Yearly.
Prerequisites: MAT 2030 with a minimum grade of C- and MAT 5000 with a minimum grade of C-

MAT 5530 Elementary Differential Geometry and its Applications Cr. 3
Introduction to the differential geometry of curves and surfaces in three-dimensional space. Curvature, torsion, Frenet formulas, fundamental theorem of space curves. Gauss and mean curvature, asymptotic and principal curves, geodesics, Gauss-Bonnet theorem. Applications such as pursuit curves, roulettes, brachistochrones, precession of Foucault's pendulum, design of packaging machines, shapes and soap films. Offered Intermittently.
Prerequisites: MAT 2030 with a minimum grade of C- and MAT 2250 with a minimum grade of C-

MAT 5600 Introduction to Analysis I Cr. 4
Completeness, convergence, compactness, connectedness and continuity in the context of metric spaces; applications to differential calculus. Offered Fall, Winter.
Prerequisites: MAT 5070 with a minimum grade of C-

MAT 5610 Introduction to Analysis II Cr. 3
Integration, point-wise and uniform convergence of sequences and series of functions; power series; introduction to analytic functions; Fourier series; possible additional topics. Offered Fall, Winter.
Prerequisites: MAT 5600 with a minimum grade of C-

MAT 5700 Introduction to Probability Theory Cr. 4
Probability spaces; combinatorial analysis; independence and conditional probability; discrete and continuous random variables including binomial, Poisson, exponential and normal distributions; expectations; joint, marginal and conditional distribution functions; law of large numbers; central limit theorems. Offered Fall, Winter.
Prerequisites: 1 of MAT 2150, MAT 2250, MAT 2350 and MAT 2030 with a minimum grade of C- and MAT 2150 with a minimum grade of C- or MAT 2250 with a minimum grade of C- or MAT 2350 with a minimum grade of C-

MAT 5710 Introduction to Stochastic Processes Cr. 3
Non-measure-theoretic introduction to the theory of stochastic processes and its applications, with emphasis on Markov processes in both discrete and continuous time, the Poisson process, and Brownian motion. Offered Every Other Year.
Prerequisites: MAT 5700 with a minimum grade of C-

MAT 5740 The Theory of Interest Cr. 3
Concrete problems used to explore concepts in the theory of interest, including measurement of interest, annuities, yield rates, amortization, bonds, and stochastic approaches. Students prepare for the actuarial examination FM/2. Offered Yearly.
Prerequisites: MAT 2020 with a minimum grade of C-

MAT 5750 Mathematics of Finance Cr. 3
Topics to be covered include: financial markets, binomial models, stocks and options, Black-Scholes formula, hedging, bond models and interest rate options, and computational methods for bonds. Offered Winter.
Prerequisites: 1 of MAT 2150, MAT 2350 and MAT 5700 with a minimum grade of C-

MAT 5770 Mathematical Models in Operations Research Cr. 3
Deterministic and probabilistic mathematical modeling of real-world problems. Linear and nonlinear programming; Markov chains; queuing theory; inventory models; Markov decision processes. Offered Every Other Year.
Prerequisites: MAT 2030 with a minimum grade of C-, MAT 2250 with a minimum grade of C-, and MAT 5700 with a minimum grade of C-

MAT 5870 Methods of Optimization Cr. 3
Introduction to basic mathematical theory and computational methods of optimization; unconstrained and constrained optimization problems; optimality conditions in various optimization problems; numerical methods of optimization. Offered Yearly.
Prerequisites: MAT 2150 with a minimum grade of C- or MAT 2350 with a minimum grade of C-

MAT 5890 Special Topics in Mathematics Cr. 3-4
Material currently of interest to students and faculty. Topics to be announced in Schedule of Classes. Offered Intermittently.
Prerequisites: 1 of MAT 2250, MAT 2350, MAT 2150 and MAT 2030 with a minimum grade of C- and MAT 2150 with a minimum grade of C- or MAT 2250 with a minimum grade of C- or MAT 2350 with a minimum grade of C-
Repeatable for 12 Credits

MAT 5990 Directed Study Cr. 1-4
Undergraduates who elect this course must be mathematics majors of honors caliber. Content will vary to satisfy needs of individual student. Offered Every Term.
Repeatable for 8 Credits

MAT 5992 Teaching Mathematics in College Cr. 1
Preparation for first semester of teaching in developmental-level mathematics course. Content presentation, test-writing, grading, classroom management, use of technology. Students are videotaped and critiqued. Required of all graduate teaching assistants in Mathematics Department. Offered for S and U grades only. Offered Fall.
Restriction(s): Enrollment is limited to Graduate or Undergraduate level students; enrollment limited to students with a class of Senior; enrollment is limited to students with a major in Mathematics or Mathematics Honors.

MAT 5993 Writing Intensive Course in Mathematics Cr. 0
Satisfies General Education Requirement: Writing Intensive Competency
Disciplinary writing assignments under the direction of a faculty member. Must be selected in conjunction with a course designated as a corequisite. See section listing in Schedule of Classes for corequisites available each term. Satisfies the University General Education Writing-Intensive Course in the Major requirement. Required for all majors. Offered Every Term.
Prerequisites: AFS 2390 with a minimum grade of C or ENG 2390 with a minimum grade of C or ENG 3010 with a minimum grade of C or ENG 3020 with a minimum grade of C or ENG 3050 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students.

MAT 6130 Discrete Mathematics Cr. 3
Foundations of mathematics: logic, sets, functions, sequences. The integers. Matrices. Mathematical reasoning: induction, recursive definitions and recurrence relations. Combinatorics. Graph theory. Boolean algebra. No credit after former MAT 1860 or 1870. Not available to Math majors for degree credit. Offered Yearly.
Prerequisites: MAT 2010 with a minimum grade of C-
Restriction(s): Enrollment limited to students in the College of Education.

MAT 6140 Geometry: An Axiomatic Approach Cr. 3
Foundations: logic, axiom systems, models; Hilbert's axioms; the parallel postulate; Euclidean geometry; non-Euclidean geometries; hyperbolic geometry; philosophical questions. Offered Yearly.
Prerequisites: MAT 5000 with a minimum grade of C-

MAT 6150 Probability and Statistics for Teachers Cr. 4
Counting techniques, discrete sample spaces and probability, random variables, mean and variance, joint distributions, the binomial and normal distributions, central limit theorem, estimation and hypothesis testing. Not available to Math majors for degree credit. Offered Fall, Winter.
Prerequisites: MAT 1800 with a minimum grade of C
Restriction(s): Enrollment limited to students in the College of Education.

MAT 6170 Algebra: Ring Theory Through Exploration, Conjecture, and Proof Cr. 4
Rings: basic definitions; properties; examples including the integers, rationals, reals, and complex numbers; ideals; homomorphisms; and divisibility. Connections to high school algebra. Students will be involved in the mathematical processes of exploration, conjecture, and proof. Only two credits after MAT 5420; no credit after MAT 5430. Offered Intermittently.
Prerequisites: MAT 5000 with a minimum grade of C-

MAT 6180 Algebra: Group Theory Through Exploration, Conjecture, and Proof Cr. 3
Groups: basic definitions, properties, examples, subgroups, cyclic groups, permutation groups, homomorphisms, quotient groups. Connections to high school algebra. Students will be involved in the mathematical processes of exploration, conjecture, and proof. Offered Yearly.
Prerequisites: MAT 5000 with a minimum grade of C-

MAT 6200 Teaching Arithmetic, Algebra and Functions from an Advanced Perspective Cr. 3
Students gain profound understanding of K-12 mathematics. Concepts underlying K-12 topics and procedures; connections to higher mathematics. Teaching with Simplicity; applying mathematical understanding to teaching practices. Offered Yearly.
Prerequisites: MAT 5120 with a minimum grade of C- or MAT 6170 with a minimum grade of C- or MAT 6180 with a minimum grade of C-
Equivalent: MAE 6200

MAT 6210 Teaching Geometry, Probability and Statistics, and Discrete Mathematics from an Advanced Perspective Cr. 3
Historical perspectives, common conceptions and misconceptions, applications, technology, and mathematical connections relative to teaching geometry (including trigonometry), probability and statistics, and discrete mathematics in secondary school. Offered Yearly.
Equivalent: MAE 6210

MAT 6420 Advanced Linear Algebra Cr. 3
Vector spaces and linear maps from a basis free perspective. Vector spaces, linear transformations, dual spaces, quotient spaces, inner product spaces, quadratic forms, adjoint operators, normal operators, spectral theorem, Jordan canonical form, trace and determinant. Offered Winter.
Prerequisites: MAT 5430 with a minimum grade of C-

MAT 6480 Introduction to Quantum Computing Cr. 3
Serves as an introduction to quantum computing and brings together students with different backgrounds in mathematics, physics, chemistry, and computer science to foster interdisciplinary connections in the areas of quantum computing and quantum information. A strong background in linear algebra over the complex numbers as well as differential and integral calculus is required. Familiarity with quantum physics and complexity theory will be helpful, but it is not required. Offered Every Term.
Equivalent: PHY 6480

MAT 6500 Topology I Cr. 3
Topological spaces and continuous functions; connectedness; compactness; product and quotient spaces; metric spaces; Urysohn's lemma; Tietze extension theorem; homotopy; covering spaces and path lifting; the fundamental group and examples; Brouwer fixed point theorem and applications. Offered Yearly.
Prerequisites: MAT 5610 with a minimum grade of C-

MAT 6600 Complex Analysis Cr. 2-4
Complex differentiation; elementary functions; Cauchy's integral theorem; power series; Laurent expansions; singularities; residue theorem; entire and meromorphic functions; Riemann mapping theorem. Offered for three credits only, if student has taken MAT 5230. Offered Yearly.
Prerequisites: MAT 5610 with a minimum grade of C-

MAT 6990 Internship in Mathematical Sciences Cr. 1-3
Experience in industry, or in a research laboratory, or in an institution, using tools from the mathematics curriculum. Students provide a written report based on the internship experience. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students in the Department of Mathematics.
Repeatable for 3 Credits

MAT 7200 Ordinary Differential Equations Cr. 3
Existence and uniqueness of solutions; linear solutions and linearization; linear differential equations in the complex domain; solutions near regular and irregular singular points; autonomous systems; stability theory; limit cycles; perturbation theory; boundary value problems; Green's function; spectral theory. Offered Every Other Year.
Prerequisites: MAT 5610 with a minimum grade of C or MAT 7600 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

MAT 7210 Partial Differential Equations Cr. 3
Linear partial differential equations; fundamental solutions; distributions and their Fourier transforms; hyperbolic equations; Cauchy-Kovalevsky theorem; energy inequalities; weak solutions; propagation of singularities; elliptic equations; maximum principles; Sobolev spaces and inequalities; Garding's inequality; existence and regularity of solutions of Dirichlet problems; fundamental solutions of parabolic equations; strongly continuous semigroups. Offered Every Other Year.
Prerequisites: MAT 5610 with a minimum grade of C or MAT 7600 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

MAT 7220 Advanced Numerical Analysis Cr. 3
Modern iterative methods for solving systems of linear and nonlinear equations, such as: conjugate gradient method, generalized minimum residue (GMRES) method, inexact Newton's Method; Newton-GMRES, multigrid and domain decomposition methods. Offered Every Other Year.
Prerequisite: MAT 5100 with a minimum grade of C- and MAT 5110 with a minimum grade of C-
Restriction(s): Enrollment is limited to Graduate level students.

MAT 7230 Finite Element Methods Cr. 3
Topics chosen at discretion of instructor from topics similar to: regularity theory for second order elliptic partial differential equations; Hamilton-Jacobi equations; conservation laws; evolution equations; semigroup theory; calculation of variations; nonvariational methods. Offered Every Other Year.
Prerequisite: MAT 5100 with a minimum grade of C- and MAT 5070 with a minimum grade of C-
Restriction(s): Enrollment is limited to Graduate level students.

MAT 7240 Advanced Partial Differential Equations Cr. 3
Continuation of MAT 7210. Variety of topics chosen by the instructor. Offered Every Other Year.
Prerequisite: MAT 7210 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

MAT 7270 Topics in Applied Mathematics Cr. 3-4
Topics of special interest such as differential equations; calculus of variations; elliptic functions; orthogonal functions; numerical methods; systems and control theory. Topics to be announced in Schedule of Classes . Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 12 Credits

MAT 7400 Advanced Algebra I Cr. 4
Permutation groups; Sylow Theorems; Jordan-Holder theorem; solvable and nilpotent groups; free groups; unique factorization domains; principal ideal domains; modules over principal ideal domains; linear transformations; Cayley-Hamilton theorem; free modules; noetherian rings; localization. Offered Every Other Year.
Prerequisite: MAT 5430 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

MAT 7410 Advanced Algebra II Cr. 3
Field extensions; finite fields; Galois theory; classical applications of Galois theory; algebraic closure; tensor and exterior algebras; determinants; alternating, quadratic and hermitian forms. Offered Every Other Year.
Prerequisite: MAT 7400 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

MAT 7470 Topics in Algebra Cr. 3-4
Selected topics from linear algebra; homological algebra; group theory; field theory. Topics to be announced in Schedule of Classes . Offered Intermittently.
Prerequisite: MAT 7410 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 12 Credits

MAT 7500 Topology II Cr. 3
Smooth manifolds and maps; examples from projective spaces, from Lie groups, and from low dimensions; local coordinates; partitions of unity; tangent vectors and tangent bundles; differentials of smooth maps; vector fields; local one-parameter groups of diffeomorphisms; differential forms; integration and Stokes theorem; definition of deRham cohomology. Offered Every Other Year.
Prerequisite: MAT 6500 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

MAT 7510 Algebraic Topology I Cr. 3
Homology and its applications including fixed-point theorems; Jordon-Brouwer separation theorem; invariance of domain; CW-complexes; Kunneth theorem. Offered Every Other Year.
Prerequisite: MAT 5430 with a minimum grade of C and MAT 6500 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

MAT 7520 Algebraic Topology II Cr. 3
Cohomology ring; orientation and duality on manifolds; homotopy theory, Hurewicz theorem. Offered Every Other Year.
Prerequisite: MAT 7510 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

MAT 7570 Topics in Geometry and Topology Cr. 3-4
Selected topics from geometry and topology; Lie groups, Riemannian and differential geometry. Offered Fall, Winter.
Prerequisite: MAT 7510 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

MAT 7600 Real Analysis I Cr. 3
Lebesgue measure; general measures; measurable functions; integration (monotone and dominated convergence theorems); function spaces; Lebesgue spaces; modes of convergence; product measures; Fubini theorem. Offered Every Other Year.
Prerequisite: MAT 5610 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

MAT 7610 Real Analysis II Cr. 3
Differentiation; relationship between differentiation and integration; Radon-Nikodym theorem; Fourier transforms; Hilbert and Banach spaces; selected topics. Offered Every Other Year.
Prerequisite: MAT 7600 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

MAT 7670 Topics in Analysis Cr. 3
Topics include: advanced harmonic analysis theory, applications to PDEs, geometric analysis, Fourier analysis, advanced theory of complex variables, analysis on manifolds, advanced PDEs. Offered Yearly.
Prerequisite: MAT 7610 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

MAT 7700 Advanced Probability Theory I Cr. 3
Probability spaces; random variables; expectations and moments; convergence concepts; product spaces and Kolmogorov extension theorem; separability of random processes; continuity of random processes; conditional expectation; independence. Offered Every Other Year.
Prerequisite: MAT 5700 with a minimum grade of C and MAT 7600 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

MAT 7710 Advanced Probability Theory II Cr. 3
Law of large numbers; characteristic functions; limit theorems; random walks; Markov processes; stationary processes; ergodic theory; martingales; stopping times. Offered Every Other Year.
Prerequisite: MAT 7700 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

MAT 7770 Special Topics in Probability Cr. 3-4
Topics of special interest such as Markov processes; time series; ergodic theory; random equations; probability measures on algebraic structures; probability measures in Banach spaces; martingales; Brownian motion; stochastic integrals. Topics to be announced in Schedule of Classes . Offered Intermittently.
Prerequisite: MAT 7710 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 12 Credits

MAT 7990 Directed Study Cr. 1-4
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 12 Credits

MAT 7999 Master's Essay Direction Cr. 1-3
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students with a class of Candidate Masters.
Repeatable for 3 Credits

MAT 8000 Advanced Topics in Mathematics Cr. 2-4
Topics to be announced in Schedule of Classes. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 24 Credits

MAT 8999 Master's Thesis Research and Direction Cr. 1-8
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students with a class of Candidate Masters.
Repeatable for 8 Credits

MAT 9990 Pre-Doctoral Candidacy Research Cr. 1-8
Research in preparation for doctoral dissertation. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 12 Credits

MAT 9991 Doctoral Candidate Status I: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.

MAT 9992 Doctoral Candidate Status II: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: MAT 9991 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

MAT 9993 Doctoral Candidate Status III: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: MAT 9992 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

MAT 9994 Doctoral Candidate Status IV: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: MAT 9993 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

MAT 9995 Candidate Maintenance Status: Doctoral Dissertation Research and Direction Cr. 0
Offered Every Term.
Prerequisite: MAT 9994 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $370.26
Repeatable for 0 Credits

MCT - MECHANICAL ENGINEERING TECHNOLOGY

MCT 3010 Instrumentation Cr. 3
Theory and use of measurement instruments and techniques; standards and dimensional units; experimental procedures and data analysis; sensors and transducers for parameters such as displacement, stress, strain, force, torque, temperature, motion, sound. Offered Fall, Winter.
Prerequisites: EET 2000 with a minimum grade of C- and PHY 2140 with a minimum grade of C-
Restriction(s): Enrollment is limited to Undergraduate level students.
Course Material Fees: $25

MCT 3100 Mechanics of Materials Cr. 3
The elastic behavior of load bearing materials. Tension, compression, shear, combined stress, bending, torsion and columns. Failure analysis. Offered Fall, Winter.
Prerequisites: ET 3030 with a minimum grade of C- and May be taken concurrently: ET 3430 with a minimum grade of C-
Course Material Fees: $10

MCT 3410 Kinematics and Dynamics of Machines Cr. 3
Velocity and acceleration of moving parts in machine elements and mechanisms; cam, gear, and gear train design; static and inertial forces, balancing, gyroscopic effects, and critical speeds. Offered Fall, Winter.
Prerequisite: ET 3050 with a minimum grade of C-

MCT 4150 Applied Thermodynamics Cr. 3
First and second laws of thermodynamics; power and refrigeration cycles; gas and vapor mixtures, nozzle and blade passage flow and combustion. Introduction to compressible flow. Direct energy conversion. Offered Yearly.
Prerequisites: ET 3430 with a minimum grade of C-
Course Material Fees: $10

MCT 4180 Fluid Mechanics Cr. 3
Properties of fluids, fundamentals of fluid flow, dimensional analysis and similitude, and flow measurement techniques. Analysis of hydrostatic equipment, hydrokinetic equipment and systems. Introduction to network analysis and calculation. Offered Yearly.
Prerequisites: ET 3030 with a minimum grade of C- and May be taken concurrently: ET 3450 with a minimum grade of C-

MCT 4210 Heat Transfer Cr. 3
Basic modes of heat transfer and their applications. Steady state conduction in one and two dimensions and transient conduction. Numerical and graphical methods. Heat exchanges. Condensation and boiling heat transfer. Introduction to mass transfer. Offered Yearly.
Prerequisites: May be taken concurrently: MAT 3450 with a minimum grade of C- and PHY 2140 with a minimum grade of C-

MCT 4400 Design of Machine Elements Cr. 3
Fundamental concepts in the design of the separate elements which compose the machine; application of properties and mechanics of materials modified by practical considerations. Offered Yearly.
Prerequisites: MCT 3100 with a minimum grade of C- and MCT 3410 with a minimum grade of C-

MCT 4990 Guided Study Cr. 1-6
Supervised study and instruction in the field selected by the student. Offered Intermittently.
Repeatable for 6 Credits

MCT 5210 Energy Sources and Conversion Cr. 3
Various energy sources and how they are utilized. Wind, solar, geothermal, fuel cells, storage devices, energy economics and transportation techniques, related to harnessing energy to a usable form such as electricity and heat. Offered Fall.
Prerequisites: ET 3430 with a minimum grade of C- and PHY 2140 with a minimum grade of C-

MCT 6150 Hybrid Vehicle Technology Cr. 4
Technical concepts and design, energy analysis, unified modeling approach, optimization, control; power generation, engine overview, concepts of hybridization, on-board energy storage; overview of motors, transmissions, fuel cells, future applications. Offered Yearly.
Prerequisites: ET 3450 with a minimum grade of C- and PHY 2140 with a minimum grade of C-

MD - MEDICAL DOCTOR

MD 7230 Resident: WSU-Sponsored Clinical Rotation Cr. 38
Restriction(s): Enrollment is limited to Medical level students.

MD1 - MEDICAL SCHOOL: YEAR 1

MD1 5050 Advanced Learning Strategies for Physicians in Training Cr. 2
Designed to provide students with knowledge, skills, and behaviors consistent with optimizing academic performance in the medical education learning environment. These include: using evidence-based programming designed to foster clinical/critical thinking skills, developing metacognitive awareness through exposure to and practice with highly effective learning techniques required for success in medical school, and assessing and providing feedback on information age competencies. Offered Yearly.
Restriction(s): Enrollment limited to students with a class of Med First Year.

MD1 5051 Foundations of Normal Structure and Function Cr. 4
Introduces students to the study of medicine beginning with the exploration of life at the molecular and cellular levels. The course content is delivered by faculty whose expertise encompasses the disciplines of Biochemistry, Cell Biology & Histology, Human Genetics, Pharmacology, and Physiology. Themes will include: biological membranes; protein function; fundamentals of inter- and intracellular signal transduction, cellular energetics; introduction to the biochemical and physiological effects of pharmaceutical drugs (pharmacodynamics) and to how the human body processes drugs (pharmacokinetics); the flow of genetic information at the molecular level and on the basic principles of human genetics; and advanced topics in human genetics and pharmacology, and with the examination of human fetal development from fertilization through the first eight weeks of life. Offered Yearly.
Restriction(s): Enrollment limited to students with a class of Med First Year.

MD1 5053 Block 3 Lab Cr. 2
The first portion of the course will cover the structure and function of the normal musculoskeletal, skin, peripheral nervous system. The second portion of the course will cover the structure and function of normal cardiopulmonary system. By the end of the course, students will be able to describe the gross anatomical structure, microanatomy, and normal development of these systems. They will also apply basic scientific principles from biochemistry, physiology, and pharmacology to describe the normal function. Offered Yearly.
Restriction(s): Enrollment limited to students with a class of Med First Year.

MD1 5054 Normal Structure and Function of the Gastrointestinal and Urinary Systems Cr. 3
Students will learn the structure and function of the normal gastrointestinal and urinary systems. By the end of the course, students will be able to describe the gross anatomical structure, microanatomy, and normal development of these systems. They will also apply basic scientific principles from biochemistry, physiology, and pharmacology to describe the normal function. The first portion of the course will cover the structure and function of the normal gastrointestinal system, including the oral cavity, the pharynx and esophagus, the stomach, the intestines, the anal canal, and the liver and associated digestive organs. The second portion of the course will cover the structure and function of the urinary system, including the renal system (kidneys) and the urinary tract. Offered Yearly.
Restriction(s): Enrollment limited to students with a class of Med First Year.

MD1 5055 Block 4 Lab Cr. 1
Students will learn the structure and function of the normal gastrointestinal and urinary systems. By the end of the course, students will be able to describe the gross anatomical structure, microanatomy, and normal development of these systems. They will also apply basic scientific principles from biochemistry, physiology, and pharmacology to describe the normal function. The first portion of the course will cover the structure and function of the normal gastrointestinal system, including the oral cavity, the pharynx and esophagus, the stomach, the intestines, the anal canal, and the liver and associated digestive organs. The second portion of the course will cover the structure and function of the urinary system, including the renal system (kidneys) and the urinary tract. Offered Yearly.
Restriction(s): Enrollment limited to students with a class of Med First Year.

MD1 5056 Normal Structure and Function of the Reproductive, Endocrine, Blood, and Lymphatic Systems Cr. 3
Students will learn the structure and function of the normal endocrine and reproductive systems, as well as the structure and function of the components of blood and the normal lymphatic system. By the end of the course, students will be able to describe the gross anatomical structure, microanatomy, and normal development of these systems. They will also apply basic scientific principles from biochemistry, physiology, and pharmacology to describe the normal function. The first portion of the course will cover the structure and function of the normal reproductive and endocrine systems. The second portion of the course will cover the structure and function of normal blood and the lymphatic system, including an introduction to basic immunology. Offered Yearly.
Restriction(s): Enrollment limited to students with a class of Med First Year.

MD1 5057 Block 5 Lab Cr. 1
Students will learn the structure and function of the normal endocrine and reproductive systems, as well as the structure and function of the components of blood and the normal lymphatic system. By the end of the course, students will be able to describe the gross anatomical structure, microanatomy, and normal development of these systems. They will also apply basic scientific principles from biochemistry, physiology, and pharmacology to describe the normal function. The first portion of the course will cover the structure and function of the normal reproductive and endocrine systems. The second portion of the course will cover the structure and function of normal blood and the lymphatic system, including an introduction to basic immunology. Offered Yearly.
Restriction(s): Enrollment limited to students with a class of Med First Year.

MD1 5058 Normal Structure and Function of the Central Nervous System Cr. 3
Students will learn the structure and function of the central nervous system (CNS). By the end of the course, students will be able to describe the major pathways and centers in the brain and spinal cord and their normal function including the special senses. This will include the disciplines of Gross Anatomy, Microanatomy, Biochemistry, Cell Biology, Pharmacology, Physiology, and Development (both anatomical and behavioral). Students will be able to demonstrate application of the principles of normal structure and function to a clinical scenario involving damage to the central nervous system by predicting the outcome. Offered Yearly.
Restriction(s): Enrollment limited to students with a class of Med First Year.

MD1 5059 Block 6 Lab Cr. 2
Students will learn the structure and function of the central nervous system (CNS). By the end of the course, students will be able to describe the major pathways and centers in the brain and spinal cord and their normal function including the special senses. This will include the disciplines of Gross Anatomy, Microanatomy, Biochemistry, Cell Biology, Pharmacology, Physiology, and Development (both anatomical and behavioral). Students will be able to demonstrate application of the principles of normal structure and function to a clinical scenario involving damage to the central nervous system by predicting the outcome. Offered Yearly.
Restriction(s): Enrollment limited to students with a class of Med First Year.

MD1 5060 Clinical Skills Course I Cr. 5
Designed to develop and demonstrate foundational knowledge and basic clinical skills in history-taking, patient examination, oral case presentation, clinical reasoning and performance of procedures required to participate in clinical service learning activities. Students who are competent in these foundational skills will then proceed to develop advanced skills in patient interviewing and physical examination emphasizing a patient-centered empathic and compassionate approach incorporating the patient's perspective, socioeconomic background and cultural intelligence, and protection of patient privacy required to participate in early clinical experiences. Offered Yearly.
Restriction(s): Enrollment limited to students with a class of Med First Year.

MD1 5061 Clinical Skills Course II Cr. 3
Designed to develop and demonstrate foundational knowledge and basic clinical skills in history-taking, patient examination, oral case presentation, clinical reasoning and performance of procedures required to participate in clinical service learning activities. Students who are competent in these foundational skills will then proceed to develop advanced skills in patient interviewing and physical examination emphasizing a patient-centered empathic and compassionate approach incorporating the patient's perspective, socioeconomic background and cultural intelligence, and protection of patient privacy required to participate in early clinical experiences. Offered Yearly.
Restriction(s): Enrollment limited to students with a class of Med First Year.

MD1 5062 Population, Patient, Physician and Professionalism (P4) Part I Cr. 9
Provides students the opportunity to learn, practice, and apply knowledge and skills as a physician-in-training in diverse urban clinical and community outreach settings. Through large group sessions, small group sessions, online modules, self-directed reflective assignments, and clinical and community engagement, students will actively participate in activities demonstrating the interconnectedness of the population, patient and physician. The course also emphasizes the need for students to quickly develop their professional identity as a physician-in-training by behaving professionally and demonstrating respect to their colleagues, faculty, patients and families. By engaging early with patients and potential patients, students' attitudes, as well as knowledge and skills, will be developed with a concentrated focus on understanding the patient's perspective, leading to true patient-centered care. Offered Yearly.
Restriction(s): Enrollment limited to students with a class of Med First Year.

MD1 5063 Normal Structure and Function of the Musculoskeletal, Skin and Peripheral Nervous Systems Cr. 2
The overall goal will be to engage students in the key concepts related to the pathogenesis, pathology, pathophysiology, basic principles of diagnosis and treatment of disease processes effecting the musculoskeletal organ system, skin and peripheral nervous system. Content areas include: review of the anatomy of the extremities and spine; upper and lower extremity fractures/injuries; development, normal structure/function and aging of bones and joints; metabolic and non-metabolic bone disease; scoliosis; disorders of the extracellular matrix and soft tissue; synovial fluid analysis; osteoarthritis; rheumatoid arthritis; septic arthritis; gout; CPPD deposition disease and pseudogout; ankylosing spondylitis; reactive arthritis; psoriatic arthritis; systemic lupus erythematosus; systemic sclerosis; skin tumors, rashes and infections; manifestations of neuromuscular diseases; and pharmacologic interventions for the treatment of musculoskeletal, peripheral nervous system and skin disorders. Offered Yearly.
Restriction(s): Enrollment limited to students with a class of Med First Year.

MD1 5065 Normal Structure and Function of the Cardiopulmonary Systems Cr. 3
The cardiovascular system component includes: review of the normal anatomy, embryology and physiology of the cardiovascular system; systemic hypertension; atherosclerosis and ischemic heart disease; basic electrophysiological principles; ECG interpretation; valvular heart disease; examination of the cardiovascular system; diseases of the pericardium; tumors of the cardiovascular system; non-atherosclerotic vascular disease; primary myocardial disease; cardiovascular disease in the elderly; congenital heart disease; congestive heart failure; nutritional management of patients with cardiovascular disease will be discussed. . The pulmonary system component includes: review of anatomy, histology and physiology of the respiratory system; arterial blood gases; numerous diseases associated with the pulmonary system; aging and the respiratory system; respiratory failure; introduction to sleep and sleep medicine; and relevant pharmacologic management of cardiovascular and pulmonary diseases. Offered Yearly.
Restriction(s): Enrollment limited to students with a class of Med First Year.

MD1 5066 Block 3.5 Lab Cr. 3
Normal structure and function of cardiopulmonary systems lab. Offered Yearly.
Restriction(s): Enrollment limited to students with a class of Med First Year.

MD1 5150 Community Engagement Part I Cr. 5
Provides students with an opportunity to explore the experience of underserved patients as they navigate for health and community services in Southeast Michigan. Meeting with agency leaders and staff, students will learn about program design, administration and operation. Students will interact with program participants to understand their circumstances and challenges patients with limited resources face. Offered Yearly.
Restriction(s): Enrollment limited to students with a class of Med First Year.

MD1 5151 Leadership and External Affairs Development (LEAD) / Medical Politcal Action (MPAC) Cr. 5
Provides students with an opportunity to learn, practice and apply knowledge and skills as physician healthcare leaders and advocates. Students will engage in healthcare advocacy to improve healthcare for patients and communities and to improve the health systems that deliver care. Working with organized medicine, students will author resolutions and meet with governmental leaders to present and advocate for reforms to decrease health disparities. Students will learn about use of media as a tool for advocacy and learn about philanthropy as it relates to healthcare. Offered Yearly.
Restriction(s): Enrollment limited to students with a class of Med First Year.

MD1 5153 Medical Research Elective Cr. 5
This research program is designed to prepare physicians who are committed to excellence by cultivating habits of research and inquiry. By participating in an investigative experience, it will also significantly impact and sharpen critical reasoning skills. Students who are educated in a research environment are stimulated to seek a deeper understanding of health and disease and develop their ability to analyze scientific literature, making them valued members of any medical field, whether it be academic medicine, community-based practice, health care policy, or emerging technologies. Offered Yearly.
Restriction(s): Enrollment limited to students with a class of Med First Year.

MD1 5800 Directed Study Cr. 1-12
Individualized curriculum designed to enhance knowledge and skills in preparation for the next phase of medical school. Offered Yearly.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med First Year or Med Second Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD1 6698 Foundations Course: Fundamentals of Human Disease Part I Cr. 8
The overall goal will be to engage medical students in learning the key concepts related to the mechanisms and consequences of human disease. Using examples from multiple body sites, this course will provide an in-depth study of basic pathologic processes. The major categories of disease to be covered will include: cellular adaptation and injury; inflammation and repair; circulatory disturbances; atherosclerosis; forensic pathology; immunopathology; neoplasia; genetic and pediatric diseases; environmental and nutritional disorders; infectious disease; and therapeutics. Within each of these categories, two concepts will be particularly emphasized: pathogenesis and altered morphology. Pathogenesis (mechanism of disease development) is reviewed primarily at the molecular and cellular level. It is at this step that the course will interface with biochemistry, pharmacology, cell biology, genetics, immunology, microbiology, and physiology. Offered Yearly.

MD1 6699 Populations, Patients, Physician, Professionalism and Clinical Skills Part I Cr. 1
The overall goals of the Populations, Patients and Professionalism Bridge course will be to engage first year medical students in learning about a special topic that occurs throughout a population residing within the city of Detroit as well as to understand basic principles about how to engage urban populations to achieve shared healthcare outcomes. Offered Yearly.

MD2 - MEDICAL SCHOOL: YEAR 2

MD2 0910 Year 2 First Patient Capstone Course Cr. 0
Students build upon the Year 1 Capstone course and continue to research the pathological finding associated with their first patient as they complete their basic science courses (abnormal systems) during their second year of medical school. Offered Yearly.
Restriction(s): Enrollment limited to students with a class of Med Second Year.

MD2 6510 Clinical Medicine II: Physical Diagnosis Cr. 0
Advanced physician-patient communication skills; additional competencies in physical examination and diagnosis. Offered Yearly.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Second Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine; enrollment limited to students in a Doctor of Medicine degree; enrollment limited to students in the Medical Doctor program.

MD2 6600 Directed Study Cr. 1-12
Students participate in an individualized curriculum designed to enhance their knowledge and skills in preparation for the next phase of medical school. Offered Yearly.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med First Year or Med Second Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.
Repeatable for 12 Credits

MD2 6610 Step 1 Preparation Course Cr. 1
As the first of what will be a lifetime of licensure exams, preparing for the USMLE Step 1 exam often creates a great deal of stress for students. While some amount of stress is a natural part of the test prep process, it does not have to be debilitating. The Wayne State School of Medicine serves to mitigate some of this stress by providing students with multiple resources to help them optimize their performance on Step 1. Offered Yearly.
Restriction(s): Enrollment limited to students with a class of Med Second Year.

MD2 6650 Step 1 Summer Preparation Cr. 2-8
Students will be provided the opportunity to enhance their Step 1 examination readiness through formal classroom and independent learning. Offered Yearly.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Second Year; enrollment is limited to students with a major in Medicine.
Repeatable for 8 Credits

MD2 6700 Foundations Course: Fundamentals of Human Disease Cr. 7
Engages the second year medical students in learning the key concepts related to the mechanisms and consequences of human disease. Using examples from multiple body sites, this course will provide an in-depth study of basic pathologic processes. The major categories of disease to be covered will include: cellular adaptation and injury; inflammation and repair; circulatory disturbances; atherosclerosis; forensic pathology; immunopathology; neoplasia; genetic and pediatric diseases; environmental and nutritional disorders; infectious disease; and therapeutics. Within each of these categories, two concepts will be particularly emphasized: pathogenesis and altered morphology. Pathogenesis (mechanism of disease development) is reviewed primarily at the molecular and cellular level. It is at this step that the course will interface with biochemistry, pharmacology, cell biology, genetics, immunology, microbiology, and physiology. Offered Yearly.
Restriction(s): Enrollment limited to students with a class of Med Second Year.

MD2 6701 Population, Patient, Physician and Professionalism (P4) Part II Cr. 5
Builds on concepts learned in the first course with additional emphasis on equipping trainees to provide patient-centered and culturally responsive care to distinct patient populations living in Detroit. Topics of discussion include nutrition-related chronic disease, veteran health, sexual health, homeless health, school-based health and healthcare provided to those with disabilities. Through large group sessions, small group sessions, online modules, and service-learning activities, trainees will become effective inter-professional team members, learn how to reduce health care disparities, improve professional development and foster self-directed learning skills. Offered Yearly.
Restriction(s): Enrollment limited to students with a class of Med Second Year.

MD2 6702 Musculoskeletal, Skin and Peripheral Nervous Systems: Fundamentals of Human Disease Cr. 3
Engages medical students in learning the key concepts related to the pathogenesis, pathology, pathophysiology, basic principles of diagnosis, and treatment of disease processes effecting the musculoskeletal organ system, skin, and peripheral nervous system. Content includes: review of the anatomy of the extremities/spine; upper/lower extremity fractures/injuries; development, normal structure/function, and aging of bones and joints; metabolic and non-metabolic bone disease; scoliosis; disorders of the extracellular matrix and soft tissue; synovial fluid analysis; osteoarthritis; rheumatoid arthritis; septic arthritis; gout; CPPD deposition disease and pseudogout; ankylosing spondylitis; reactive arthritis; psoriatic arthritis; systemic lupus erythematosus; systemic sclerosis; skin tumors and rashes; skin and soft tissue infections; manifestations of neuromuscular diseases; and pharmacologic interventions for the treatment of MSK, PNS, and skin disorders. Offered Yearly.
Restriction(s): Enrollment limited to students with a class of Med Second Year.

MD2 6703 Cardiopulmonary Systems: Fundamentals of Human Disease Cr. 5

Covers the key concepts related to the pathology, pathophysiology, diagnosis and treatment of cardiovascular and pulmonary disease. The cardiovascular component includes: normal anatomy, embryology, and physiology; systemic hypertension; atherosclerosis and ischemic heart disease; basic electrophysiological principles; ECG interpretation; valvular heart disease; diseases of the pericardium; tumors; non-atherosclerotic vascular disease; primary myocardial disease; cardiovascular disease in the elderly; congenital heart disease; and congestive heart failure. The pulmonary component includes: normal anatomy, histology, and physiology; arterial blood gases; various diseases affecting the pulmonary system; lung cancer and smoking cessation; aging and the respiratory system; respiratory failure; and introduction to sleep and sleep medicine. Relevant pharmacologic management of cardiovascular and pulmonary diseases will also be discussed. Offered Yearly.

Restriction(s): Enrollment limited to students with a class of Med Second Year.

MD2 6704 Gasrointestinal Systems: Fundamentals of Human Disease Cr. 3

Engages medical students in learning the key concepts related to the etiology, pathogenesis, pathology, and pathophysiology of non-infectious and infectious disease processes affecting the gastrointestinal organs, as well as basic principles of their diagnosis and treatment. The following content areas will be covered: liver disorders; diseases affecting the gallbladder, extrahepatic biliary tract and pancreas; diseases of the salivary glands, esophagus, stomach, small intestine, and colon; genetic predisposition to cancers of the gastrointestinal tract; and the effects of various systemic disorders on the GI tract. Nutritional and pharmacologic management of gastrointestinal diseases will also be included. Offered Yearly.

Restriction(s): Enrollment limited to students with a class of Med Second Year.

MD2 6705 Renal and Urinary Systems: Fundamentals of Human Disease Cr. 2

Provides medical students with an understanding of the pathogenesis, pathology and pathophysiology of disease processes affecting the kidney and urinary tract. Students will develop the skills of diagnosis and learn treatment options. The following content areas are covered: normal renal physiology; various disorders of body fluid, electrolyte and acid#based regulation; the principles underlying appropriate therapeutic strategies; acute and chronic renal failure; uremia; end stage renal disease; major glomerular, tubulointerstitial and systemic diseases with renal involvement; major benign and malignant tumors of the kidney and bladder; infections of the urinary tract; the principles for appropriate supportive and therapeutic measures including nutritional management of patients with renal disease; and an understanding of the physiologic basis for the pharmacologic actions of drugs on the kidney. Offered Yearly.

Restriction(s): Enrollment limited to students with a class of Med Second Year.

MD2 6706 Endocrine and Reproductive Systems: Fundamentals of Human Disease Cr. 3

Engages medical students in learning the key concepts related to the pathogenesis, pathology, and pathophysiology of the more common disease processes affecting the endocrine and reproductive organ systems, as well as basic principles of their diagnosis and treatment. The following content areas will be covered: fundamental concepts regarding endocrine hormones; the hypothalamic/pituitary axis and related disorders; reproductive endocrinology and corresponding abnormalities; disorders of the male and female genital tracts; abnormalities of the placenta and selected complications of pregnancy; breast disease; diabetes mellitus; lipid disorders; diseases of the thyroid, parathyroid, and adrenal glands; calcium homeostasis and disorders of calcium; endocrine hypertension; obesity; and genetic factors that play a role in endocrine disorders. Nutritional management of diabetic and obese patients will be covered. Offered Yearly.

Restriction(s): Enrollment limited to students with a class of Med Second Year.

MD2 6707 Hematopoietic and Lymphoid Systems: Fundamentals of Human Disease Cr. 2

The overall goal will be to provide the foundations, background facts and expected competencies, to foster understanding common benign and malignant hematological disorders. At the end of this course, students should have the skills and the ability to integrate the acquired knowledge into clinical settings. The following content areas will be covered: a review of normal blood coagulation, hemostasis and platelet function; hemolytic anemia including diagnostic tests; hemoglobinopathies including how hemoglobin alterations produce disease, diagnosis and management; platelet disorders including the symptoms associated with inherited and acquired coagulation and vascular disorders; an introduction to stem cell transplantation; transfusion medicine; diagnostic criteria, pathophysiology, and therapeutic options for the treatment of anemia, myelodysplastic syndromes, acute leukemias, myeloproliferative disorders, and lymphomas, among other topics. Offered Yearly.

Restriction(s): Enrollment limited to students with a class of Med Second Year.

MD2 6708 Central Nervous System: Fundamentals of Human Disease Cr. 3

Covers key concepts related to disease processes affecting the central nervous system, and provides the basis for understanding the unique features that disease processes in the brain. Enables students to integrate neuroanatomy, neuropathology, and introductory clinical neurology in preparation for the clinical rotation in neurology. The following content areas will be covered: basic neuropathology and mass lesions; brain tumors and infectious processes; neurodegenerative diseases; cognitive dysfunction and dementia; the application of neuroradiology to diagnosis; pathology of cerebrovascular disorders and stroke; nervous system trauma; autoimmune and demyelinating diseases; epilepsy; and the pharmacotherapy of headache. Normal development and the recognition and treatment of psychiatric disorders seen in adults and children will also be covered. This portion will prepare students for their clinical rotation in psychiatry and provide a background in psychiatry. Offered Yearly.

Restriction(s): Enrollment limited to students with a class of Med Second Year.

MD2 6709 Clinical Skills Course III Cr. 3

A self-directed, competency-based course designed to develop and demonstrate knowledge and skills in history-taking, patient examination, oral case presentation, clinical reasoning and procedural skills. Offered Yearly.

Restriction(s): Enrollment limited to students with a class of Med Second Year.

MD2 6710 Clinical Experiential Clerkship Cr. 4
The course is focused on ambulatory clinical immersion with the overall objective of developing students as medical professionals, patient advocates, and skilled clinicians. Offered Yearly.
Restriction(s): Enrollment limited to students with a class of Med Second Year.

MD2 6711 Medical Political Action and Public Health Leadership (MPAC) Part II Cr. 5
Provides students with an opportunity to learn, practice and apply knowledge and skills as physician healthcare leaders and advocates. Students will engage in healthcare advocacy to improve healthcare for patients and communities and to improve the health systems that deliver care. Working with organized medicine, students will author resolutions and meet with governmental leaders to present and advocate for reforms to decrease health disparities. Students will learn about use of media as a tool for advocacy and learn about philanthropy as it relates to healthcare. Offered Yearly.
Restriction(s): Enrollment limited to students with a class of Med Second Year.

MD2 6712 Community Engagement Part II Cr. 5
Provides students with an opportunity to explore and understand the experience of under-served patients as they navigate community health services in Southeast Michigan. Medical students interact with patients or participants and staff to learn the circumstances and challenges faced with limited resources, to foster empathy, compassion, respect and humanistic care. Meeting with agency leaders and staff students learn about program design, administration and operation through outreach and mentoring volunteering. Offered Yearly.
Prerequisite: MD1 5151
Restriction(s): Enrollment limited to students with a class of Med Second Year.

MD2 6713 Medical Research Elective Part II Cr. 5
This research program is designed to "prepare physicians who are committed to excellence by cultivating habits of research and inquiry." By participating in an investigative experience, it will also significantly impact and sharpen critical reasoning skills. Students who are educated in a research environment are stimulated to seek a deeper understanding of health and disease and develop their ability to analyze scientific literature, making them valued members of any medical field, whether it be academic medicine, community-based practice, health care policy, or emerging technologies. Offered Yearly.
Restriction(s): Enrollment limited to students with a class of Med Second Year.

MD2 6714 Medical Political Action & Public Health Leadership (MPAC) Part III Cr. 1
The MPAC program elective provides students with an opportunity to learn, practice and apply knowledge and skills as physician healthcare leaders and advocates. Students will engage in healthcare advocacy to improve healthcare for patients and communities and to improve the health systems that deliver care. Working with organized medicine, students will author resolutions and meet with governmental leaders to present and advocate for reforms to decrease health disparities. Students will learn about use of media as a tool for advocacy and learn about philanthropy as it relates to healthcare. Offered Yearly.
Prerequisite: MD2 6711
Restriction(s): Enrollment limited to students with a class of Med Second Year.

MD2 6715 Community Engagement Part III Cr. 1
The Community Engagement elective provides students with an opportunity to explore and understand the experience of underserved patients as they navigate community health services in Southeast Michigan. Medical students interact with patients or participants and staff to learn the circumstances and challenges faced with limited resources, to foster empathy, compassion, respect and humanistic care. Meeting with agency leaders and staff students learn about program design, administration and operation through outreach and mentoring volunteering. Offered Yearly.
Restriction(s): Enrollment limited to students with a class of Med Second Year.

MD2 6716 Medical Research Elective Part III Cr. 1
This research program is designed to "prepare physicians who are committed to excellence by cultivating habits of research and inquiry ." By participating in an investigative experience, it will also significantly impact and sharpen critical reasoning skills. Students who are educated in a research environment are stimulated to seek a deeper understanding of health and disease and develop their ability to analyze scientific literature, making them valued members of any medical field, whether it be academic medicine, community-based practice, health care policy, or emerging technologies. Offered Yearly.
Prerequisite: MD2 6713
Restriction(s): Enrollment limited to students with a class of Med Second Year.

MD2 - MEDICAL SCHOOL: YEAR 3

MD3 7000 Continuity Clinical Clerkship Cr. 3
A continuity experience in which the basic skills, knowledge and attitudes necessary to manage the care of patients in an out-patient primary care setting are learned. Offered Every Term.
Prerequisite: MD3 7300 (may be taken concurrently) and MD3 7100 (may be taken concurrently) and MD3 7200 (may be taken concurrently)
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD3 7100 Family Medicine Clerkship Cr. 4
Practice of family medicine learned in a community-based primary care setting; experiencing care and treatment of children, adolescents, and adults with acute and chronic disease. Offered Every Term.
Prerequisite: MD3 7000 (may be taken concurrently) and MD3 7300 (may be taken concurrently) and MD3 7200 (may be taken concurrently)
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD3 7200 Internal Medicine Clerkship Cr. 8
Practical experience in recognition, evaluation, diagnosis, and management of hospitalized adult patients with acute non-surgical illnesses. Offered Every Term.
Prerequisite: MD3 7300 (may be taken concurrently) and MD3 7100 (may be taken concurrently) and MD3 7000 (may be taken concurrently)
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD3 7300 Pediatrics Clerkship Cr. 8
Practical experience in recognition, evaluation, diagnosis, and management of pediatric patients in in-patient and ambulatory care settings. Offered Every Term.
Prerequisite: MD3 7200 (may be taken concurrently) and MD3 7100 (may be taken concurrently) and MD3 7000 (may be taken concurrently)
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD3 7400 Surgery Clerkship Cr. 8
Practical experience in recognition, evaluation, diagnosis, and management of patients in general surgery or surgical sub-specialties. Offered Every Term.
Prerequisite: MD3 7500 (may be taken concurrently) and MD3 7600 (may be taken concurrently) and MD3 7700 (may be taken concurrently)
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD3 7500 Psychiatry Clerkship Cr. 4
Practical experience in recognition, evaluation, diagnosis, and management of patients with behavioral and emotional brain disorders. Offered Every Term.
Prerequisite: MD3 7400 (may be taken concurrently) and MD3 7600 (may be taken concurrently) and MD3 7700 (may be taken concurrently)
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD3 7600 Obstetrics and Gynecology Clerkship Cr. 8
Practical experience in recognizing, evaluating, diagnosing, and managing the health care of women in a variety of inpatient and outpatient settings. Offered Every Term.
Prerequisite: MD3 7400 (may be taken concurrently) and MD3 7500 (may be taken concurrently) and MD3 7700 (may be taken concurrently)
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD3 7700 Neurology Clerkship Cr. 4
Practical experience in recognition, evaluation, diagnosis, and management of patients with disorders of the nervous system. Offered Every Term.
Prerequisite: MD3 7400 (may be taken concurrently) and MD3 7500 (may be taken concurrently) and MD3 7600 (may be taken concurrently)
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD3 7800 Directed Study Cr. 1-12
Individualized curriculum designed to enhance knowledge and skills in preparation for the next phase of medical school. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD3 7810 Independent Study: Step 1 Extended Prep Cr. 0
Students use curricular time for continued preparation for the Step 1 board exam. Offered Yearly.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD3 7815 Year 3 General Elective Month Cr. 3
Offered Yearly.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 - MEDICAL SCHOOL: YEAR 4

MD4 8010 Humanities in Medicine Cr. 6
Work with vulnerable populations and stigmatized patients including the elderly, homeless, addicted, handicapped, pregnant teens and others. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 8020 Medical Education Cr. 6
Processes involved in evaluation of courses; coordination of the assessment of Year 1-2 courses. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 8025 Curriculum Development Cr. 6
Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 8030 Medicine and Political Action Cr. 6
Observation and participation in medical areas that are politically in the forefront of medicine today. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 8035 Students Teaching and Educating Peers Cr. 6
Students will learn and apply techniques to prepare medical students for the Step 1 examination, as well as lead Step 1 preparation sessions. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major, minor, or concentration in Medicine.

MD4 8036 Independent Service Learning Cr. 3,6
Students will participate in a Service Learning Program within a community organization providing direct service to the organizations specific clientele. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major, minor, or concentration in Medicine.

MD4 8040 Special Topics in Anatomy and Cell Biology Cr. 3,6
Review of research training in gross anatomy, cell biology, histology, embryology, or neuroscience. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 8041 Gross Anatomy Teaching Lab Cr. 6
Students taking this elective will gain teaching and mentorship experience in preparation for a career in academic medicine by teaching freshman medical students dissection skills in the anatomy labs. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 8045 Medical Ethics Cr. 6
Medical ethics issues and concerns in the ICU, PICU, NICU, as well as those associated with a medical ethics committee. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 8046 Street Medicine: Detroit Cr. 3,6
Knowledge and skills necessary to promote health, prevent illness, and manage the common chronic, and minor acute primary care needs of adults who are experiencing homelessness in Detroit. Clinical Experience (CLN): students will complete 120 hours of clinical education experience during their one-month rotation Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment is limited to students with a major in Medicine.

MD4 8050 General Anesthesiology Cr. 3,6
Practice of anesthesia including preoperative assessment, delivery of general and regional anesthesia, equipment use, and monitoring techniques. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 8060 Pain Management Cr. 6
Diagnosis, treatment and management of acute and chronic pain syndromes related to malignant and nonmalignant diseases. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 8070 Pediatric Anesthesiology Cr. 6
Preoperative assessment, delivery of general and regional anesthesia, equipment use, and monitoring techniques in pediatric patients. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 8100 Law and Medicine Cr. 3,6
Legal issues associated with practicing clinical medicine. Offered Yearly.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 8120 General Dermatology Cr. 3,6
Fundamentals of diagnosing, treating and managing patients with common dermatologic disorders. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 8130 Dermatology Research Cr. 3,6
Knowledge and experience in dermatology research. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 8140 General Emergency Medicine Cr. 3,6
Initial evaluation, stabilization, and management of patients in the emergency department. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 8145 ER Ultrasound Cr. 6
Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Fourth Year; enrollment is limited to students with a major in Medicine.

MD4 8150 Emergency Medicine Research Cr. 3,6
Process and participation in emergency medicine research. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 8160 Emergency Medicine Subinternship Cr. 7
Evaluation, stabilization, and treatment of a variety of patients presenting to the ER with urgent and emergent illness and trauma. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 8165 Advanced Emergency Medicine Cr. 6
Being the primary provider for patients while in the ER, from initial evaluation to completion of disposition. Offered Every Term.
Prerequisite: MD4 8160 with a minimum grade of S
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine; enrollment limited to students in a Doctor of Medicine degree.

MD4 8170 General Family Medicine Cr. 3,6
Enhancement of knowledge and skills in conducting a history/physical, diagnosing/managing patients, and participation in common office procedures in the outpatient setting. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 8171 Rural Family Medicine Cr. 3-6
Students will gain a better understanding of the unique needs, challenges and rewards of practicing medicine in a medically underserved, rural or small-town community. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 8172 Family Medicine Student Run Free Clinic Cr. 6
Students are involved in supervision of day-to-day operations of Student Run Free Clinic. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 8175 MPH Master's Project Cr. 6
Students apply the knowledge and skills gained from classroom and field experiences to a scholarly project of their own design and execution. The final products are a written paper and an oral presentation. Offered Intermittently.
Restriction(s): Enrollment limited to students with a class of Med Fourth Year.

MD4 8210 Family Medicine Subinternship Cr. 7
Students expand on Year 3 family medicine clerkship experience with more intensive involvement in select patient populations. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 8220 Hospice/Palliative Medicine Cr. 3,6
Care of terminally ill patients; basic communication and interactive skills associated with these patients and their families. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 8230 Maternal and Child Health Cr. 6
Gaining experience in an aggressive family medicine OB service. Offered Yearly.
Prerequisite: MD3 7600 with a minimum grade of S
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine; enrollment limited to students in a Doctor of Medicine degree.

MD4 8250 Sports Medicine Cr. 6
Knowledge and skills to assess the fitness and health risks of athletes. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 8255 International Elective Cr. 6
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 8258 International Away Cr. 6
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major, minor, or concentration in Medicine.

MD4 8260 Allergy and Clinical Immunology Cr. 3,6
Conducting an allergic H & P; understanding basic mechanisms, pathophysiology and testing of allergic and immunologic disorders. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 8261 Advanced Physical Diagnosis Cr. 6
Students will refine their basic physical examination, as well as advance their skills in evaluating hypertension, thyroid disease, cardiac murmurs, breast abnormalities, and geriatric assessment. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 8262 Ambulatory Subspecialty in Internal Medicine Cr. 6
Students will learn the practice of ambulatory internal medicine, with an emphasis placed upon bedside teaching, physical diagnosis and in-depth discussion of the clinical, diagnostic and therapeutic aspects of each case. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Fourth Year; enrollment limited to students in the School of Medicine.

MD4 8264 Independent Study in Medical Education Cr. 6
Students will improve their skills as learners and critical thinkers, and gain an appreciation of the importance of lifelong learning. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 8265 Urban Medicine for Visiting Students Cr. 6
Students will learn academic internal medicine in an urban setting with an emphasis on recognizing, studying, treating, and preventing disparities in healthcare. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 8270 Ambulatory Med Cr. 6
Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 8280 Cardiology Cr. 3,6
Basic history/physical, diagnostic, treatment and management skills associated with common inpatient cardiac problems. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 8281 Interventional Cardiology Cr. 6
Exposure to an interventional lab. Gaining familiarity with the clinical utility of routine cardiovascular interventions and hemodynamic measurements. Offered Yearly.
Prerequisite: MD4 8280 with a minimum grade of S
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine; enrollment limited to students in a Doctor of Medicine degree.

MD4 8290 Cardiology Consultation Cr. 3,6
Skills needed to consult with medical and surgical patients with cardiac problems. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 8310 Coronary Care Unit Cr. 6
Diagnosis and treatment of common cardiac problems; care for critically ill patients admitted to cardiac care unit. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Third Year or Med Fourth Year.

MD4 8320 Critical Care Medicine Cr. 3,6
Management of critically ill patients to improve diagnostic, problem solving, assessment, and treatment skills. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 8340 Endocrine/Bone and Mineral Metabolism Cr. 3,6
Diagnosing, treating, and managing patients with metabolic bone diseases. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 8350 Endocrinology Research Cr. 6
The research process; participation in research associated with medical endocrinology. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 8360 Endocrine/Metabolism Cr. 3,6
Techniques of conducting a history and physical; diagnostic, therapeutic, and laboratory approaches to endocrine disorders. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 8365 Scholarly Writing for Critical Appraisal of Clinical Research Cr. 4
Peer review for clinical research practice. Offered Yearly.
Restriction(s): Enrollment limited to students with a class of Med Fourth Year.

MD4 8370 Gastroenterology Cr. 3,6
Conducting a history and physical exam, and diagnosing, treating, and managing patients with common gastrointestinal diseases. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 8380 Gastroenterology Research Cr. 6
The research process; participation in specific gastroenterology research. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 8390 General Internal Medicine Inpatient Cr. 3,6
Common problems encountered in an internal medicine inpatient clinical setting. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 8391 Internal Medicine: Miscellaneous Cr. 3,6
Students learn various topics and issues in general internal medicine. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 8392 Metabolic Nutrition and Weight Management Cr. 3,6
Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 8395 Clinical Pharmacology Cr. 6
Four-week on-line elective where students use case-based scenarios to apply pharmacology principles in a clinical setting. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 8400 Clinical Genetics Cr. 3,6
Interviewing, conducting a physical examination, and other patient interactions in patients with suspected or known genetic diseases. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 8420 Geriatric Medicine Cr. 6
Conduct of a comprehensive assessment and treatment of a geriatric patient; factors affecting the health of the elderly. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 8430 Hematology Cr. 3,6
Familiarization with a variety of hematologic and oncologic disorders; how to diagnose, treat, and manage patients with these disorders. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 8440 HIV/AIDS Cr. 6
Basic knowledge and skills associated with care of HIV-infected persons in outpatient and inpatient settings. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 8450 Infectious Disease Cr. 3,6
Evaluating, diagnosing and treating patients with acute and chronic infectious diseases. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 8460 Infectious Disease Research Cr. 6
The research process; participation in specific infectious disease research. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 8470 Internal Medicine Subinternship Cr. 7
Expanding on Year 3 internal medicine clerkship experience; more intensive involvement in select patient populations. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 8480 Medicine/Pediatrics Cr. 3,6
Aspects of the day-to-day practice of a physician specializing in an internal medicine/pediatric practice. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 8490 Nephrology Cr. 3,6
Experience in diagnosing and managing patients with acute and chronic nephrologic problems. Offered Every Term.
Prerequisite: MD3 7200 with a minimum grade of S
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 8500 Nephrology Consultation Service Cr. 6
Evaluation, diagnosis, and treatment of patients with renal problems. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 8510 Oncology: Medical Cr. 3,6
Evaluation, diagnosis, treatment and management of patients with oncologic conditions. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 8520 Oncology: Outpatient Cr. 3,6
Cancer patients in the outpatient setting: initial evaluations, types of malignant diseases, role of staging, conducting a focused follow-up of cancer patients. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Third Year or Med Fourth Year.

MD4 8530 Oncology Research Cr. 6
The research process; participation in research involving patients with cancer. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 8540 Otolaryngology Cr. 3,6
History and basic head and neck examination on patients with otolaryngologic disease. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 8550 Otolaryngology Medical and Surgical: Head and Neck Cr. 3,6
Additional training in otolaryngology head and neck surgery. Offered Every Term.
Prerequisite: MD3 7200 with a minimum grade of S and MD3 7400 with a minimum grade of S
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 8560 Otolaryngology Research Cr. 6
The research process; participation in otolaryngology research. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 8570 Palliative Medicine Cr. 3,6
Understanding of and skills in palliative medicine: communication, cultural issues, psycho-emotional and spiritual aspects of end of life care and death and dying. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 8575 Complementary Medicine Cr. 6
The world of complementary medicine: what it is, how it is different from conventional medicine, how it is practiced, and what its benefits are. Offered Yearly.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine; enrollment limited to students in a Doctor of Medicine degree.

MD4 8580 Primary Care Medicine Cr. 6
Common problems encountered in internal medicine outpatient clinical setting. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 8590 Pulmonary Medicine Cr. 3,6
Diagnosis and management of a variety of pulmonary disorders; diagnosis of acute and chronic respiratory failure; interpretation of pulmonary tests. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 8600 Pulmonary and Sleep Research Cr. 6
The research process; participation in pulmonary and sleep research. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 8610 Pulmonary Consultation Cr. 6
Diagnosis and management of a variety of pulmonary disorders; diagnosis of acute and chronic respiratory failure; interpretation of pulmonary tests. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 8620 Rheumatology Cr. 3,6
Diagnosis and management of common rheumatologic problems; understanding ancillary procedures and lab tests. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 8630 Sleep Disorders Cr. 6
Interviewing, physical examination, diagnosis, and therapy of patients with sleep disorders. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 8640 Molecular Medicine Cr. 3,6
State-of-the-art molecular biological research and methods, relating to basic and applied research of human disease. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 8650 General Neurology Cr. 3,6
Evaluation, diagnosis, treatment and management of patients with an array of general neurologic conditions. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 8660 Neurology Consult Cr. 6
Pathogenesis, genetics, neurochemistry, imaging, diagnostic testing, presentation and treatment of Alzheimer's and other forms of dementia. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 8670 Clinical Neurology of AIDS Cr. 3,6
Common neurologic manifestations of AIDS and their evaluation and management. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 8690 Movement Disorders Cr. 6
Evaluation, diagnosis, treatment and management of patients with neurologic movement disorders. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 8700 Neurology - Oncology Cr. 6
Diagnosis, treatment and management of patients with malignancies of the neurologic system. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 8710 Neurologic Sleep Disorders Cr. 6
Operations of a sleep lab and evaluation of patients with sleep disorders. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 8730 Neurology Pediatrics Cr. 3,6
Diagnosis, treatment, and management of a variety of neurologic disorders of infancy and childhood. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 8750 General Neurosurgery Cr. 3,6
Preoperative, intraoperative, and post-operative care of neurologic patients. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 8760 Neurosurgery Research Cr. 3,6
Basic research principles as they apply to clinical questions in neurosurgery. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 8780 General Gynecology Cr. 3,6
Signs, symptoms, and management of both surgical and nonsurgical gynecologic disease. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 8781 Family Planning and Abortion Cr. 3-6
Students will learn the principles and counseling techniques for contraceptive management and abortion. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 8790 Gynecologic Oncology Cr. 3,6
Evaluation and treatment of patients presenting with a range of gynecologic malignancies. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 8800 Obstetrics Cr. 3,6
Signs, symptoms and management of normal/abnormal labor, and experience patients with intrapartum high risk conditions and intrapartum/postpartum complications. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 8810 Obstetrics/Gynecology Cr. 3,6
Care of inpatient and outpatient obstetric and gynecologic patients, and participation in obstetric and gynecological procedures. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 8820 Obstetrical Ultrasound Cr. 6
Basic knowledge and skills in obstetrical ultrasound. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 8830 Maternal Fetal Medicine Cr. 3,6
Experience patients with common medical and obstetrical complications; development of skills in fetal assessment and evaluation of high risk pregnancies. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 8850 Nurse Midwifery Cr. 3,6
Ambulatory women's health care delivery as performed by a certified nurse midwife, including management of labor and delivery. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 8860 Reproductive Endocrine and Infertility Cr. 3,6
Diagnosis and treatment of couples with infertility and reproductive endocrine disorders. Offered Every Term.
Prerequisite: MD3 7600 with a minimum grade of S
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 8870 Reproductive Genetics Cr. 3,6
Diagnostic, therapeutic and counseling procedures associated with reproductive genetics, fetal diagnosis, and fetal therapy. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 8890 Ophthalmology Cr. 3,6
Conducting basic eye examinations; evaluation methods, management and treatment of eye diseases. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 8900 Ophthalmic Research Cr. 3,6
The research process; participation in ophthalmic research. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 8910 General Orthopedic Surgery Cr. 3,6
Conduct of an H & P, diagnosis and treatment of patients with orthopedic problems; participation in preoperative, operative, and post-operative care. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 8911 Orthopedic Surgery Sports Medicine Cr. 3,6
Through the clinic and operating room settings, students will learn the assessment of the athlete, emergent care of injuries on the field, as well as common sport injuries. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 8912 Orthopedic Hand Surgery Cr. 3,6
Students will learn about the care of patients with upper extremity disorders, including carpal tunnel, tendon injuries, hand fractures, arthritis of the hand and common congenital deformities. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 8913 Orthopedic Foot/Ankle Surgery Cr. 3,6
Through the clinic and operating room, students will learn how to perform a history and physical exam, diagnose and treat patients that have foot or ankle complaints. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 8914 Orthopaedic Surgery Research Cr. 3,6
Students participate in current orthopaedic surgery and biomechanics research. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 8930 Orthopedic Traumatology Cr. 3,6
Basic surgical principles and pathophysiology, diagnosis, and management of a variety of traumatic orthopedic conditions. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 8940 General Pathology Cr. 3,6
Functions of a clinical laboratory, including interpretation of surgical pathology. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 8950 Anatomic Pathology Cr. 3,6
Basic pathologic processes; how gross, microscopic and other techniques are applied to the diagnosis and treatment of disease. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 8970 Forensic Pathology Cr. 3,6
Basic mechanisms of injury; characteristic features of injury patterns; relationship between medicine and law. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 8980 Tumor Genetics Cr. 6
Role of cytogenetics and molecular cytogenetics in diagnosis, management and prognosis of a patient's disease. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 8990 General Pediatrics Cr. 3,6
Evaluating and managing children with common pediatric problems; aspects of normal growth and development. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 8991 Child Abuse Identification and Treatment Cr. 6
Students will learn the techniques to identify and report suspected child abuse and neglect, as well as methods of treatment and prevention. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 8992 Pediatric Pulmonary Cr. 6
Students will learn the evaluation and treatment of pediatric patients with acute and chronic respiratory diseases. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 9000 Adolescent Pediatrics Cr. 6
Interviewing and physical examination on adolescent patients; normal physical, cognitive and psychosocial development of adolescent patients. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 9010 Allergy, Immunology, and Rheumatology Cr. 3,6
Day-to-day care of pediatric patients with common allergic, immunologic and rheumatologic disease. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 9040 Developmental Behavioral Pediatrics Cr. 6
Distinguishing normal from abnormal development; approaches to assessment of disorders of learning and development. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 9050 Pediatric Genetics Cr. 3,6
Abnormal morphology of children; diagnostic skills in various inborn errors. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 9060 Medical Toxicology and Poison Control Cr. 6
Assessment and management of pediatric patients with suspected or known poisoning or toxic exposure. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 9070 Neonatology Cr. 3,6
Evaluation of healthy newborns; common newborn conditions; care of high risk infants and their mothers. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 9080 Pediatric Cardiology Cr. 3,6
Skills in taking and performing a cardiac exam; normal hemodynamics; natural history of children with congenital and acquired heart disease. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 9090 Pediatric Ear, Nose and Throat Cr. 3,6
Entire scope of pediatric otolaryngology. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 9100 Pediatric Emergency Medicine Cr. 3,6
Observation and participation in care of children presenting with a wide range of conditions in pediatric emergency medicine. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 9110 Pediatric Endocrinology and Diabetes Cr. 3,6
Evaluation of normal physical growth and development; recognition of common pediatric endocrine problems. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 9120 Pediatric Gastroenterology, Hepatology, and Nutrition Cr. 3,6
Performance of a history and physical exam, development of a diagnosis, and caring for patients with disorders of the gastrointestinal tract. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 9130 Pediatric Hematology/Oncology Cr. 3,6
Basic skills to conduct an H & P and diagnose and treat children with hematologic and oncologic problems. Offered Every Term.
Prerequisite: MD3 7300 with a minimum grade of S
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 9140 Pediatric Infectious Disease Cr. 6
Evaluation, diagnosis, treatment, and management of common pediatric infections. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 9150 Pediatric Intensive Care Cr. 3,6
Basic diagnostic and therapeutic approach to care of critically ill children. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 9160 Pediatric Nephrology Cr. 3,6
Basic skills to examine, diagnose and treat patients with common renal diseases. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 9170 Pediatric Neurology Cr. 3,6
Performance of a complete neurological history, examination, and ordering of appropriate laboratory tests to diagnose and manage pediatric patients with neurologic disease. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 9180 Pediatric Pathology: Autopsy and Surgical Cr. 3,6
Correlation of clinical, anatomical and laboratory findings in diagnosing pediatric disease. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 9190 Pediatric Plastic Surgery/Craniofacial Cr. 3,6
Recognition and development of a treatment plan for congenital craniofacial anomalies and vascular lesions. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 9200 Pediatric PMR Cr. 3,6
Childhood functional impairments including head injury, spinal cord injury, cerebral palsy, neuromuscular diseases, sports medicine, and electromyography. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 9210 Pediatric Subinternship Cr. 7
Senior students expand upon Year 3 pediatric clerkship experience with more intensive involvement in select patient populations. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 9230 Physical Medicine and Rehabilitation Cr. 3,6
Performance of an H & P; development of greater understanding of diagnosis, management and treatment of patients with neuromuscular and musculoskeletal problems.] Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 9240 Spinal Cord Injury Rehabilitation Cr. 3,6
Management of patients with spinal cord injuries; role of rehabilitation team approach to spinal cord injuries. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 9250 Traumatic Brain Injury Rehabilitation Cr. 3,6
Management of patients with traumatic brain injuries; role of a rehabilitation team in management of patients with traumatic brain injuries. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 9260 Brain Imaging of Childhood Onset of Neuropsychiatric Disorders Cr. 3,6
Brain imaging techniques; neurodevelopmental approaches. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 9261 Emergent and Consult Liaison Psychiatry Cr. 3,6
Students will learn to assess psychiatric patients, manage acute intoxication and withdrawal syndromes, manage psychiatric patients with medical comorbidities and learn basic managed care principals. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 9262 Emergency Psychiatry Cr. 3-6
Students will learn to evaluate, diagnose, and treat psychiatric patients in an emergency setting. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 9263 Clinical Electro-Physiology Research Cr. 3-6
Students will participate in the academic research process, as well as learn the strengths and weakness of the different electrophysiological testing modalities. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 9264 Psychiatry Research Cr. 3,6
Students will participate in research projects and learn the clinical components associated with neuropsychiatric research. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 9265 Outpatient Psychiatry Cr. 3-6
The student will observe routine outpatient practice and have an opportunity to evaluate new outpatients under the supervision of residents/staff. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 9270 Child and Adolescent Psychiatry Cr. 3,6
Experience of a variety of children and adolescents with psychiatric disorders; evaluation of patients and provision of care. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 9290 Psychiatric Consultation Cr. 3,6
Knowledge and skills associated with the psychiatric interview; mental status examination; development of knowledge base in behavioral medicine and treatment of psychiatric illness. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 9300 Psychiatry: Geriatrics Cr. 3,6
Knowledge and skills associated with the psychiatric interview; mental status examination; interpretation of data, diagnosis, psychopharmacology and psychotherapy in geriatric patients. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 9310 Psychotherapy Elective Cr. 3,6
Psychodynamic, cognitive, and group therapies; observation and participation in psychotherapeutic encounters. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 9320 Research and Practice in Addiction Psychiatry Cr. 3,6
Diagnosis and management of individuals with addictive disorders; psychotherapeutic and pharmacotherapeutic interventions for problems with psychotropic substances. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 9340 Substance Abuse Cr. 3,6
Inpatient and outpatient treatment of substance use disorders. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 9345 Psychiatric Care of Veterans Cr. 6
Clinical Experience; Students will complete 160 hours of clinical education experience during their one-month rotation. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Fourth Year; enrollment is limited to students with a major in Medicine.

MD4 9350 General Diagnostic Radiology Cr. 3,6
Basic techniques of imaging; skills to diagnose and interpret radiographic studies. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 9360 Intervention Radiology Cr. 3,6
Role of interventional radiologic techniques in diagnosis and management of disease. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 9370 Nuclear Medicine Cr. 3,6
Performing and interpreting clinical nuclear medicine procedures; role of nuclear medicine in clinical practice. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 9380 Radiation Oncology Cr. 3,6
Role of radiation therapy in variety of adult and pediatric malignancies. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 9390 General Surgery Cr. 3,6
Experience in a variety of elective and acute surgical cases; diagnostic skills; basic surgical techniques and procedures. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 9392 Advanced Surgical Skills Cr. 6
Students will learn advanced surgical skills in preparation for their surgery residency program. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 9393 Breast Surgery Cr. 6
Students will gain exposure to the diagnosis and treatment of breast diseases at the Walt Comprehensive Breast Center. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 9400 Acute Burn Care Cr. 6
Physiologic principles and clinical management of burn victims. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 9410 Cardiovascular Surgery Cr. 3,6
Diagnosis and treatment of cardiology diseases using invasive surgical approaches. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 9430 Gastrointestinal Surgery Cr. 6
Pathophysiology and management of gastrointestinal surgical diseases. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 9440 Pediatric Surgery Cr. 3,6
Diagnosis and care of surgical disorders in children. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 9470 Plastic and Reconstructive Surgery Cr. 3,6
Evaluation, formulation of treatment plan, management of postoperative care, and participation in surgical procedures for patients requiring plastic surgery. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 9480 Surgical Intensive Care Unit Cr. 3,6
Care of critically ill surgical patients; common surgical intensive care unit procedures. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 9490 Surgery Subinternship Cr. 7
Senior students expand upon their Year 3 surgery clerkship experience with more intensive involvement in select patient populations. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 9495 Advanced Maxillofacial Surgery Cr. 7
Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 9500 Transplant Surgery Cr. 3,6
Basic surgical principles and pathophysiology, diagnosis and management of a variety of transplant surgical conditions. Offered Every Term.
Prerequisite: MD3 7200 with a minimum grade of S and MD3 7400 with a minimum grade of S
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 9510 Acute Care Surgery Cr. 3,6
Evaluation, diagnosis, treatment, and management of critically ill patients; basic procedures in the care of this population. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 9520 Vascular Surgery Cr. 3,6
Pathophysiology, evaluation, diagnosis, and management of patients needing vascular surgery; participation of procedures for this population. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 9528 Maxillofacial Surgery Cr. 6
In-depth exposure to the field of maxillofacial surgery and its subspecialties of trauma, oncology, and micro-vascular reconstruction. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 9530 General Urology Cr. 3,6
Pathophysiology, evaluation, diagnosis and management of patients with urologic disease; participation in urologic surgery. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MD4 9540 Male Reproductive Medicine Cr. 3,6
Understanding of the basic physiology of sperm production and photophysiology that lead to infertility and sexual dysfunction. Offered Every Term.
Restriction(s): Enrollment limited to students with a class of Med Fourth Year; enrollment is limited to students with a major in Medicine.

MD4 9545 Step 2 Preparation Cr. 1
Students will be introduced to methods for successfully passing the mandatory Step 2 CK United States Licensing Examination (USMLE). Offered Intermittently.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Fourth Year; enrollment limited to students in the School of Medicine.

MD4 9999 Year 3 Additional Course Work Cr. 0
Students complete Year 3 course work prior to starting Year 4 course work. Offered Every Term.
Restriction(s): Enrollment is limited to Medical level students; enrollment limited to students with a class of Med Third Year or Med Fourth Year; enrollment limited to students in the School of Medicine; enrollment is limited to students with a major in Medicine.

MDR - MEDICAL RESEARCH

MDR 7090 Fellowship Writing Cr. 2
Preparation and submission of fellowship applications to national funding agencies such as the NIH. Advanced scientific communication, including bibliographic and online resources, organization of federal funding agencies, composition and function of study sections, NIH grant application process, fellowship writing, Institutional Review Boards (IRBs). Students work with faculty and research mentors to prepare and submit applications. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Medicine; enrollment limited to students in the MD & PHD program.

MDR 7100 Clinical Research Design Cr. 2
Design and implementation of authorized clinical research projects, with exposure to such topics as drug discovery, study design, obtaining FDA approval, subject recruitment and retention, data management, translational and biotechnological aspects, GCRC, and bioinformatics; preparation for establishment of career in clinical and translational research. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Medicine; enrollment limited to students in the MD & PHD program.

MDR 7110 Clinical Field Experience Cr. 2
Complexity of the disease process from initial presentation of patient in a clinic, to understanding the pathophysiological basis of the disease, to diagnosis, treatment, and patient management; application of clinical and laboratory research training and current technology. Topics may include: diabetes, sickle cell anemia, asthma, seizures, hypertension, congestive heart failure, chronic myeloid leukemia, genetics of cancer, stroke, lupus. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Medicine; enrollment limited to students in the MD & PHD program.
Repeatable for 2 Credits

MDR 7420 Topics in International Health Medicine Cr. 2
Clinical trainees are exposed to topics in understanding and managing health care and other needs of children involved in international travel, as well as of children adopted locally from other countries. One-hour biweekly lectures by experts in various areas of international health. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Medicine.

MDR 7990 Directed Study in Pediatric Global Health Cr. 4
Clinical trainees develop and execute research projects in international settings, using international and culturally sensitive protocols and regulations. Conducting research in clinical areas at partnering sites in India and China. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Medicine.

MDR 8999 Master's Thesis Research and Direction Cr. 1-8
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students with a class of Candidate Masters; enrollment is limited to students with a major in Medical Research; enrollment limited to students in a MS in Medical Research degree.
Repeatable for 8 Credits

ME - MECHANICAL ENGINEERING

ME 2200 Thermodynamics Cr. 3
Transformation of heat energy to other energy forms. Basic concepts and laws of thermodynamics. Thermodynamic properties and processes for simple substances. Applications to power and refrigeration cycles. No credit after ME 2210. Offered Fall, Winter.
Prerequisites: MAT 2020 with a minimum grade of C- and PHY 2175 with a minimum grade of C- and May be taken concurrently: BE 1300 with a minimum grade of C- and May be taken concurrently: BE 1310 with a minimum grade of C- and BE 1500 with a minimum grade of C-

ME 2410 Statics Cr. 3
Basic concepts and principles of statics with applications to Newton's Laws of Motion to engineering problems. Forces, moments, equilibrium, couples, free body diagrams, trusses, frames, fluid statics, friction, area and mass moment of inertia. Offered Every Term.
Prerequisites: MAT 2020 with a minimum grade of C- and PHY 2175 with a minimum grade of C- and BE 1500 with a minimum grade of C-
Equivalent: CE 2410

ME 2420 Elementary Mechanics of Materials Cr. 3
Elastic relationships between external forces acting on deformable bodies and the associated stresses and deformations; structural members subjected to axial load, torsion, and bending; column buckling; combined stresses; repeated loads; unsymmetrical bending. Offered Every Term.
Prerequisites: ME 2410 with a minimum grade of C- or CE 2410 with a minimum grade of C-
Equivalent: CE 2420

ME 2500 Numerical Methods Using MATLAB Cr. 2
Developing numerical solutions for engineering problems using MATLAB. Evaluation of alternative approaches to the numerical solutions in terms of accuracy and efficiency. Offered Fall, Spring/Summer.
Prerequisites: BE 1500 with a minimum grade of C- and MAT 2030 with a minimum grade of C- and May be taken concurrently: MAT 2150 with a minimum grade of C-

ME 3300 Fluid Mechanics: Theory and Laboratory Cr. 4
Introduction to the nature and physical properties of fluids, statics, equation of motion, incompressible inviscid flow, dimensional analysis, incompressible one-dimensional compressible channel flow. Experiments to supplement lectures. Offered Fall, Winter.
Prerequisites: ME 2410 with a minimum grade of C- and BE 2550 with a minimum grade of C- or ME 2500 with a minimum grade of C-
Restriction(s): Enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering.

ME 3400 Dynamics Cr. 3
Basic concepts and principles of dynamics with application of Newton's Laws of Motion to engineering problems. Kinematics and kinetics of particles and rigid and variable-mass bodies. Equations of motion, impulse-momentum, impact and work-energy principles. Offered Fall, Winter.
Prerequisites: ME 2410 with a minimum grade of C- and ME 2500 with a minimum grade of C- and MAT 2150 with a minimum grade of C-
Restriction(s): Enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering.

ME 3450 Manufacturing Processes I Cr. 3
A study of the field of manufacturing processes from a mechanical engineering design standpoint. Topics include: processing of metals, polymers and ceramics, and computer-aided manufacturing. Offered Fall, Winter.
Prerequisites: BE 1500 with a minimum grade of C- and ME 2420 with a minimum grade of C- and BE 1300 with a minimum grade of C- and BE 1310 with a minimum grade of C-
Restriction(s): Enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering.
Course Material Fees: $25
Equivalent: IE 3450

ME 4150 Design of Machine Elements Cr. 4
Static body stresses, strain and deflection, failure theories, introduction to impact loading and fatigue. Design of common mechanical elements: threaded fasteners, rivets, welding and bonding, springs, lubrication and sliding bearings, rolling element bearings. Offered Every Term.
Prerequisites: ME 3450 with a minimum grade of C- and BE 2100 with a minimum grade of C-
Restriction(s): Enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering.
Course Material Fees: $40

ME 4210 Heat Transfer: Theory and Laboratory Cr. 4
Fundamental concepts and basic modes of heat transfer. General equation of heat conduction, steady state heat conduction on one and more dimensions. Transient heat conduction. Heat transfer by radiation, Kirchoff's law and the black body. Radiation between diffuse surfaces. Radiation from gases, vapors and flames. Introduction to heat convection; concept of heat transfer coefficient and Nusselt number. Lab experiments to supplement lectures. Offered Fall, Winter.
Prerequisite: ME 3300 with a minimum grade of C- and ENG 3050 with a minimum grade of C-
Restriction(s): Enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering.
Course Material Fees: $25

ME 4300 Thermal Fluid Systems Design Cr. 4
Design of thermal-fluid systems to meet system performance requirements, computer-aided design, system simulation, design optimization including investment economics. Offered Fall, Winter.
Prerequisite: ME 4210 with a minimum grade of C- and ENG 3060 with a minimum grade of C-
Restriction(s): Enrollment limited to students in the College of Engineering; enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering.
Course Material Fees: $40

ME 4410 Vibrations: Theory and Laboratory Cr. 4
Fundamentals of dynamic principles, energy relation and Rayleigh's principle. Undamped and damped free vibration of one degree of freedom systems. Forced vibrations with harmonic excitation. Vibration isolation, critical speed of shafting. Experiments to supplement theory. Offered Fall, Winter.
Prerequisite: ME 3400 with a minimum grade of C- and ENG 3050 with a minimum grade of C-
Restriction(s): Enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering.
Course Material Fees: $25

ME 4420 Dynamic Modeling and Control of Engineering System Cr. 4
Mathematical modeling of linear, lumped, time-invariant systems, open and closed loop systems, single-input-single-output system design using root locus method. Offered Fall, Winter.
Prerequisite: ME 3400 with a minimum grade of C-
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering.

ME 4500 Mechanical Engineering Design II Cr. 4
Satisfies General Education Requirement: Writing Intensive Competency
Involve teamwork on semester-long open-ended design project. Develop design concepts based on various design theories, analyze alternative solutions and identify "best design solution" within given constraints. Students perform patent literature search, design, fabricate, develop and test prototypes. Perform product verification and validation. Require submission of formal progress reports, a final written report and a public presentation. Course satisfies Writing Intensive course requirement. Offered Fall, Winter.
Prerequisites: ME 4150 with a minimum grade of C- or ME 4250 with a minimum grade of C- and ENG 3060 with a minimum grade of C- and BE 2250 with a minimum grade of C- or ME 2500 with a minimum grade of C- and May be taken concurrently: ME 4410 with a minimum grade of C-
Restriction(s): Enrollment limited to students in the following programs: BS in Biomedical Engineering, BS in Chemical Engineering, BS in Civil Engineering, BS in Electrical Engineering, BS in Industrial Engineering, BS in Mechanical Engineering.
Course Material Fees: $50

ME 5000 Engineering Analysis I Cr. 4
Applications of ordinary differential equations. The method of Frobenius, Bessel functions, Legendre polynomials. Orthogonality of characteristic functions. Fourier series and Fourier integrals. Characteristics and solutions of partial differential equations. Method of separation or variations. Applications to initial and boundary value problems in engineering. Offered Fall.
Course Material Fees: $5

ME 5040 Finite Element Methods I Cr. 4
Introduce finite element methods and review solid mechanics concepts and formalisms, variational methods and potential energy principles. Emphasize the basic understanding of the finite element method including its physical and mathematical principles, numerical procedures and their implementation. Define displacement-based formulations of spring, bar, beam, plane strain and plane stress elements along with isoparametric element formulation, assembly of elements and solution of global stiffness equations. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.

ME 5100 Quantitative Physiology Cr. 4
Basic principles of human physiology presented from the engineering perspective. Bodily functions, their regulation and control discussed in quantitative terms and illustrated by mathematical models where feasible. Offered Fall, Winter.
Equivalent: BME 5010, CHE 5100, ECE 5100

ME 5110 Fundamental Fuel Cell Systems Cr. 4
Introduce various types of fuel cells, materials properties of electrodes and polymeric membranes, and electrochemical mechanisms. Reforming of various types of hydrocarbon fuel to hydrogen, and reforming technology. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.
Equivalent: AET 5110, CHE 5110, EVE 5130

ME 5115 Fundamentals of Electric-drive Vehicle Modeling Cr. 4
Covers engineering and modeling fundamentals and basic design of electric-drive vehicle powertrains by understanding and analyzing the relevant multi-physics and applying the associated equations and simple models. MATLAB script m-file is required for all assignments. Offered Fall.
Restriction(s): Enrollment is limited to Graduate or Undergraduate level students; enrollment limited to students with a class of Senior; enrollment limited to students in the College of Engineering.
Equivalent: EVE 5110, EVE 5115

ME 5120 Fundamentals of Alternative Energy Technology Cr. 4
Provide an overview/review of thermodynamics. Cover advanced thermodynamics topics of energy and chemical reacting systems. Introduce general areas of alternative energy technology, engineering analysis and design of solar angle/time/radiation, solar heating, solar photovoltaic, and wind power. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.
Equivalent: AET 5120

ME 5160 Musculoskeletal Biomechanics Cr. 4
Structure and properties of the major tissue components of the musculoskeletal system and evaluation of how tissues combine to provide support and motion to the body. Offered Fall.
Prerequisite: BME 5010 with a minimum grade of C or BMS 6550 with a minimum grade of C
Equivalent: BME 5210

ME 5170 Design of Human Rehabilitation Systems Cr. 4
Design, fabrication and testing of customized hardware to aid handicapped patients. Offered Fall.

ME 5180 Introduction to Biomaterials Cr. 4
Introduction to study of both biological materials (bone, muscle, etc.) and materials for medical applications. Topics include tissue properties and effects of pathology, biocompatibility, and design considerations. Offered Winter.
Prerequisites: BIO 1510 with a minimum grade of C- or May be taken concurrently: BMS 5010 with a minimum grade of B-
Equivalent: BME 5370

ME 5215 Fundamentals of Battery Systems for Electric and Hybrid Vehicles Cr. 4
Covers fundamental electrochemistry and engineering aspects for electric propulsion batteries including lead acid, nickel metal hydride, lithium ion and capacitor technologies. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.
Equivalent: AET 5310, CHE 5120, EVE 5120

ME 5300 Intermediate Fluid Mechanics Cr. 4
Introduce fluid kinematics entailing vector field, potential flows, vorticity along with the computation of particle trajectory in a given velocity field and near stagnation points. Define basics of fluid dynamics including stress tensor in fluids, Navier-Stokes equations, Euler's equations, properties of solutions of Euler's equations, Bernoulli's integral and role of viscosity. Extend the analysis to two-dimensional potential flows and vortex flows. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.

ME 5330 Advanced Thermal Fluid System Design Cr. 4
Involve teamwork on semester-long open-ended design project of thermal fluid systems to meet performance requirements using sound design process and system engineering approach. Apply engineering principles and computational design software to analyze and optimize system or subsystem processes. Offered Fall, Winter.
Prerequisites: ENG 3060 with a minimum grade of C- and ME 4210 with a minimum grade of C-
Restriction(s): Enrollment limited to students in the College of Engineering.
Course Material Fees: $40

ME 5400 Dynamics II Cr. 4
Cover three-dimensional kinematics and kinetics of rigid bodies, Euler angles, angular momentum, D'Alembert Principle, equations of motion in general rotating coordinate frames. Derive Lagrange's equation of motion for particles and rigid bodies. Introduce Lagrange multipliers, holonomic and non-holonomic constraints, virtual work principle, and Hamilton's Principle. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.
Course Material Fees: $10

ME 5410 Vibrations II Cr. 4
Review the vibration response of two-degree-of-freedom systems including frequency response function. Extend the analysis to multi-degree-of-freedom systems including eigenvalues (natural frequencies) and orthogonality of eigenvectors (normal modes). Introduce numerical and experimental modal analysis techniques. Formulate the boundary-value problem for the vibration of continuous structural elements such as rods, strings, and beams. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.

ME 5425 Analysis of Vibration Movements and Instrumentation Cr. 4
Basic tools and instrumentation, such as spectral analyzers to measure and analyze vibration time histories of excitation and response signals (stationary or non-stationary) in the time and frequency domains. Fast Fourier transform, frequency time analyses. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.
Course Material Fees: $20

ME 5440 Industrial Noise Control Cr. 4
Basic and advanced measurement techniques to acquire various acoustic quantities in a non-ideal environment including measurements of pressure, power and intensity of sound levels, reverberation time, absorption, coefficients of materials, room acoustics, and modal analysis. Cover noise reduction and control strategies for engineering applications. Offered Fall.
Restriction(s): Enrollment limited to students in the College of Engineering.

ME 5453 Automotive Manufacturing Systems and Processes Cr. 4
Introduce principles and methodologies of automotive assembly systems and processes. Cover operation management, quality management, principle of system development, planning and analysis of assembly systems and supportive functions, assembly processes, automatic and manual operations, management of tooling development and honing processes of sheet metal parts. Offered Spring/Summer.
Prerequisite: ME 3450 with a minimum grade of C- or ME 4250 with a minimum grade of C-
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.

ME 5460 Fundamentals in Acoustics and Noise Control Cr. 4
Introduce principles of sound generation, propagation and interaction with solid boundary surfaces, as well as engineering noise control applications. Gain hands-on experience on simulating sound radiation and interactions with solid boundaries, and estimating sound transmission through partitions. Offered Every Other Fall.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.

ME 5465 Lasers for Medical Applications Cr. 3
Summarizes the wealth of recent research on the principles, technologies and application of lasers in diagnostics, therapy and surgery. Includes an overview of optics, optical components used in a typical laser, key principles of lasers and radiation interactions with tissue. The respective types of the laser (solid state, gas, dye, and semiconductor) are reviewed to provide an understanding of the wide diversity, and therefore, the large possible choice of these devices for a specific diagnosis, treatment, or surgery. Offered Winter.
Equivalent: BME 5460, PHY 5460

ME 5470 Creative Problem Solving in Design and Manufacturing Cr. 3
Concepts of laws of natural development of engineering systems. Algorithm for inventive (creative) problem-solving (AIPS-85). Creative use of physical and geometrical effects in design of mechanical and manufacturing systems. Concepts of strength, stiffness, vibratory effects, reliability in mechanical design. Offered Yearly.
Equivalent: IE 5490, SYE 5470

ME 5500 Advanced Engineering Design Cr. 4
Satisfies General Education Requirement: Writing Intensive Competency
Involve teamwork on semester-long open-ended design project. Develop design concepts based on various design theories, analyze alternative solutions and identify "best design solution" within given constraints. Students perform patent literature search, design, fabricate, develop and test prototypes. Perform product verification and validation. Require submission of formal progress reports, a final written report and a public presentation. Course satisfies Writing Intensive course requirement. Offered Fall, Winter.
Prerequisites: BE 2550 with a minimum grade of C-, ENG 3060 with a minimum grade of C-, and ME 4250 with a minimum grade of C-
Course Material Fees: $50

ME 5580 Computer-Aided Mechanical Design Cr. 4
Introduce aspects of constraint-based solid modeling and parametric modeling using Unigraphics, Solid Edge, I-DEAS and Pro-E. Develop intelligent solid models with application to data management and sheet metal design. Introduce computer-aided simulation and manufacturing. Offered Spring/Summer.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.

ME 5620 Fracture Mechanics in Engineering Design Cr. 4
Introduce linear and nonlinear fracture mechanics principles and their applications to structural design. Formulate fracture parameters based on energy methods and stress-intensity factors for linear elastic fracture mechanics (LEFM), J-Integral and crack tip opening displacement (CTOD) for elastic plastic fracture mechanics (EPFM). Introduce design concepts based on failure assessment diagram and damage tolerance. Cover crack growth mechanisms, crack closure and crack retardation concepts. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.

ME 5700 Fundamentals of Mechanics Cr. 4
Introduce Lagrangian and Hamiltonian classical mechanics. Derive thermodynamics laws from mechanics. Cover continuum kinematics and basics of tensor analysis, continuum mechanics (basic laws; thermodynamics of continuum media; classical continuum models). Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.
Course Material Fees: $5

ME 5720 Mechanics of Composite Materials Cr. 4
Develop a comprehensive understanding of analytical models of micro-mechanical and macro-mechanical behavior of composite materials. Conduct stiffness, strength, hydrothermal, laminate, viscoelastic, dynamic behavior and fracture analyses. Introduce experimental characterization procedures for mechanical behavior evaluation. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.

ME 5730 Tribology and Lubrication Technology Cr. 4
Introduce friction, wear, and lubrication fundamentals including wear mechanisms, application of coatings, surface engineering fundamentals, measurement of surface topological features and surface wear. Offered Yearly.

ME 5780 Products Liability Introduction for Engineers Cr. 1
Application of engineering practice to minimize products liability exposure. Stages of a products liability lawsuit; how engineers may be involved at different stages of the process. Offered Yearly.
Restriction(s): Enrollment limited to students with a class of Applicant Masters, Candidate Masters or Senior; enrollment limited to students in the College of Engineering.
Equivalent: IE 5780

ME 5800 Combustion Engines Cr. 4
Cover thermodynamics and cycle analysis of spark and compression ignition engines. Introduce combustion processes in actual systems, engine performance characteristics and engine modeling. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.
Course Material Fees: $35

ME 5810 Combustion and Emissions Cr. 4
Define air quality and emissions standards. Cover fundamentals of emission formation in combustion systems, wall quenching and imperfect combustion, unburned hydrocarbons, carbon monoxide, aldehydes, nitrogen oxides, species stratification in the combustion chamber, and particulates. Discuss the effects of design parameters and engine operating variables on emission formation. Introduce chemical kinetics simulation. Offered Winter.
Prerequisite: ME 5800 with a minimum grade of C-
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.
Course Material Fees: $35

ME 5820 Thermal Environmental Engineering Cr. 4
Design and analyze heating, ventilating and air-conditioning systems. Introduce moist air properties calculations, heat transfer and transmission coefficients, heating load, cooling load, heating and cooling equipment, duct design, fans, air distribution, and refrigeration principles. Offered Spring/Summer.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.

ME 5900 National Design Competition Projects Cr. 1-4
Offered Every Term.
Repeatable for 998.99 Credits

ME 5990 Directed Study Cr. 1-4
Offered Every Term.
Repeatable for 6 Credits

ME 5992 Research Experiences for Undergraduates Cr. 1-4
Offered for undergraduate credit only. Offered Intermittently.
Restriction(s): Enrollment is limited to Undergraduate level students.
Repeatable for 6 Credits

ME 5995 Special Topics in Mechanical Engineering I Cr. 1-4
Topics to be announced in Schedule of Classes . Offered Intermittently.
Restriction(s): Enrollment limited to students in the College of Engineering.
Repeatable for 8 Credits

ME 6180 Biomedical Instrumentation Cr. 4
Engineering principles of physiological measurements, signal conditioning equipment, amplifiers, recorders and transducers. Recent advances in instrumentation. Offered Winter.
Prerequisites: BME 5020 with a minimum grade of B- and ECE 3300 with a minimum grade of C- or BME 5040 with a minimum grade of B-
Equivalent: BME 6480, ECE 6180

ME 6550 Modeling and Control of Dynamic Systems Cr. 4
Introduce state-space representation of dynamical systems, apply Lyapunov stability criteria, and examine controllability and observability of systems. Design linear state feedback controllers using pole-placement technique and formulate full- and reduced-order linear state observers such as Luenberger observer. Design linear model following controller and linear quadratic optimal controllers. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.
Course Material Fees: $5

ME 6991 Internship in Industry Cr. 1-4
Written report describing internship experience. Offered Every Term.
Repeatable for 4 Credits

ME 7020 Finite Element Methods II Cr. 4
Introduce isoparametric elements, plate and shell elements. Perform dynamic analysis of structures (explicit versus implicit methods). Formulate problems with geometric, materials, and/or contact nonlinearities. Introduce hybrid variational techniques, Cover examples dealing with solids, fluids and heat transfer by utilizing commercially available software such as HyperMesh, OptiStruct, LS/DYNA and ANSYS. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.

ME 7100 Mathematical Modeling in Impact Biomechanics Cr. 4
Review of models created for impact simulations. Regional impact simulation models. Human and dummy models subject to various restraint systems. Offered Winter.
Prerequisite: BME 5010 with a minimum grade of B-
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: BME 7100, ECE 7100, IE 7100

ME 7160 Impact Biomechanics Cr. 4
Biomechanical response of the body regions and the whole body to impact. Mechanisms of injury in blunt impact. Effects of restraints on injury reduction. Development of test surrogates such as dummies. Offered Fall.
Prerequisite: BME 5010 with a minimum grade of B-
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $10
Equivalent: BME 7160

ME 7180 Advanced Topics in Biomaterials and Tissue Biomechanics Cr. 4
Seminar format: advanced topics presented to the class; lectures by the instructor and by the participants based on literature reviews. Topics determined by student interest. Offered Every Other Fall.
Prerequisite: BME 5210 with a minimum grade of C or BME 5370 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: BME 7300, MSE 7180

ME 7260 Heat and Mass Transfer Cr. 4
Introduce transport phenomena and rate equations. Formulate heat and mass transfer problems using lumped, differential and integral formulations. Solve these problems using the method of separation of variables, partial solutions, variation of parameters, superposition, Laplace transformation and Duhamel Integral for problems with time-dependent boundary conditions. Apply these concepts to various thermal and combustion systems. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.

ME 7290 Advanced Combustion and Emissions I Cr. 4
Introduce thermodynamics of chemically reacting mixtures, oxidation mechanisms of hydrocarbon fuels, theories of explosions, structure of pre-mixed hydrocarbon flames, propagation of laminar premixed flames, pre-mixed turbulent flames, kinetics of nitrogen oxides formation, combustion and emissions in spark ignition engines and control strategies. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.
Course Material Fees: $5

ME 7300 Advanced Fluid Mechanics Cr. 4
Understand the physics of governing equations of conservation of mass, momentum, energy, and other scalar properties in transport processes. Express the numerical aspects of the transport processes in finite volume approach and pressure-based solution algorithm. Introduce physical models of turbulence, multi-phase and reacting flows. Acquire hands-on experience of formulation, meshing, simulation, post-processing and presentation to solve engineering problems. Stress the importance of CFD encountered in real-life engineering applications. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.

ME 7310 Computational Fluid Mechanics and Heat Transfer Cr. 4
Understand the physics of governing equations of conservation of mass, momentum, energy, and other scalar properties in transport processes. Express the numerical aspects of the transport processes in finite volume approach and pressure-based solution algorithm. Introduce physical models of turbulence, multi-phase and reacting flows. Acquire hands-on experience of formulation, meshing, simulation, post-processing and presentation to solve engineering problems. Stress the importance of CFD encountered in real-life engineering applications. Offered Fall.
Prerequisite: ME 5300 with a minimum grade of C-
Restriction(s): Enrollment is limited to Graduate level students.

ME 7315 Electric-drive Vehicle Simulation and Control Cr. 4
Cover modeling, simulation and control of electric-drive vehicle powertrain including plant modeling, controls model development, and in-the-loop controls testing. Proficiency in MATLAB/Simulink is required. Offered Winter.
Prerequisites: EVE 5115 with a minimum grade of B- or ME 5115 with a minimum grade of B-
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.
Equivalent: EVE 7310

ME 7400 Advanced Dynamics Cr. 4
Introduce physical concepts and formalisms of Newtonian, Lagrangian, and Hamiltonian mechanics. Formulate calculus of variations including Hamiltonian least action principle and Euler-Lagrange equation. Develop the boundary-value problem of continuous elastic structures using Hamilton's principle. Model strongly nonlinear dynamical systems involving impact, non-smooth and discontinuous loads. Offered Winter.
Prerequisite: ME 5400 with a minimum grade of C-
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.
Course Material Fees: $5

ME 7420 Random Vibrations Cr. 4
Introduce statistical parameters of random vibration such as mean, mean square, correlation function, power spectral density, cumulant and moment generating function. Define Brownian motion process, white noise, Markov processes, and Fokker-Planck-Kolmogorov equation. Develop stochastic calculus rules (It and Stratonovich integrals) and stochastic averaging. Generate random response statistics of single- and two-degree-of-freedom systems. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.

ME 7440 Signal Processing Technologies and Their Applications Cr. 4
Develop advanced signal processing techniques for analyzing transient signals containing discontinuities and sharp spikes with applications to such fields as blind sources separation, de-noising time-domain signals, etc. Acquire hands-on experience with software such as LabVIEW to set up experiments and analyze data. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.

ME 7451 Advanced Manufacturing II: Material Forming Cr. 4
Cover classical theory of plasticity and basic equations, deformation behavior and constitutive equations of materials, deformation mechanisms related to microstructures, mechanical analyses of various forming processes, experimental study on material properties, microstructure evolution and forming mechanics. Offered Every Other Fall.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.

ME 7460 Advanced Acoustics and Noise Control Cr. 4
Introduce advanced techniques in near-field acoustical holography for visualizing acoustic fields, analyzing vibro-acoustic correlations and identifying the critical vibration components responsible for acoustic radiation from a vibrating structure. Offered Every Other Winter.
Prerequisite: ME 5460 with a minimum grade of C-
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.

ME 7480 Nonlinear Vibration Cr. 4
Categorize nonlinearities in mechanical systems and qualitatively describe their effects on the dynamic response. Introduce the concepts of phase portrait, limit cycles, dynamic characteristics of Duffing and Van der Pol oscillators, parametric vibration and parametric resonance. Outline nonlinear techniques such as harmonic balance, averaging method, and multiple scales methods to analyze nonlinear modal interaction (internal resonance), vibro-impact dynamics and chaotic motion. Offered Fall.
Prerequisite: ME 5410 with a minimum grade of C- and ME 7400 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

ME 7550 Control of Dynamic Systems Cr. 4
Formulate static optimization problems with equality constraints, system identification, parameter optimization using Lyapunov's method. Introduce calculus of variations including dynamic optimization with equality constraints and apply them to formulate linear regulator and tracking problems. Introduce Pontryagin's minimum principle and state inequality constraints. Solve minimum-time problems and minimum control-effort problems. Offered Winter.
Prerequisite: ME 6550 with a minimum grade of C- or ECE 5470 with a minimum grade of C-
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.
Course Material Fees: $5

ME 7590 Nonlinear Control Systems Cr. 4
Provide examples of nonlinear dynamical control systems, perform system analysis using phase-portrait, and examine stability using Lyapunov's direct method and invariant set theorems (local and global stability). Introduce describing function method, feedback linearization technique, internal dynamics, and zero-dynamics. Design nonlinear robust controllers. Offered Fall.
Prerequisite: ME 6550 with a minimum grade of C- or ECE 5470 with a minimum grade of C-
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.
Equivalent: ECE 7420

ME 7610 Theory of Elasticity Cr. 4
Define boundary value problems of linear elasticity. Cover variational principles in linear elasticity along with theory of beams, plates and shells. Introduce homogenized description of composite materials. Offered Fall.
Prerequisite: ME 5700 with a minimum grade of C-
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.
Course Material Fees: $5

ME 7680 Manufacturing Processing Mechanics Cr. 4
Perform finite element analysis (FEA) of non-linear large strain deformation problems using the software ABAQUS. Cover thermal-mechanical coupled deformation problems involving micro-manufacturing of micro-electronic mechanical systems (MEMS), electronic packaging, composite curing, creep-fatigue of micro-system and large plastic deformation in metal forming. Offered Yearly.
Prerequisite: ME 5040 with a minimum grade of C-
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.

ME 7720 Advanced Mechanics of Composite Materials Cr. 4
Conduct a review on tensor notation with application to stress strain and constitutive equations. Develop damage tolerance analysis and approaches including durability of composite materials and structures. Conduct extensive literature review and independent focused research on the above topics that encompass advanced models and their applications. Offered Winter.
Prerequisite: ME 5720 with a minimum grade of C-
Restriction(s): Enrollment is limited to Graduate level students.

ME 7820 Engineering Non-Destructive Evaluation (NDE) Methods and Industrial Applications Cr. 4
Cover basic and advanced non-destructive evaluation methods used in industry. Treat in-depth the physics and engineering NDE applications of ultrasonics, vibration, acoustic emission and thermal wave sciences. Cover methodologies of penetrant and eddy current diagnostics. Illustrate NDE concepts through laboratory experiments. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Engineering.

ME 7990 Directed Study Cr. 1-4
Advanced study and instruction in mechanical engineering. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 4 Credits

ME 7995 Special Topics in Mechanical Engineering II Cr. 1-8
Special subject matter in mechanical engineering. Topics to be announced in Schedule of Classes . Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 8 Credits

ME 7996 Research Cr. 1-4
Perform experimental and analytic study on a selected topic in mechanical engineering. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 4 Credits

ME 8020 Crashworthiness and Occupant Protection in Transportation Systems I Cr. 4
Introduce crashworthiness and occupant safety facts along with computational environment influences. Review of federal motor vehicle safety regulations. Design strategies for crash load sustainment and disbursement. Review the plasticity theory and its application to modeling and design. Define strategic material selection for crash affected and related regions. Cover modeling, analysis and simulation techniques in restraint systems, energy management, and various barrier crash tests. Offered Fall, Winter.
Prerequisite: ME 5040 with a minimum grade of C-
Restriction(s): Enrollment is limited to Graduate level students.

ME 8030 Crashworthiness and Occupant Protection in Transportation Systems II Cr. 4
Develop mathematical models of vehicle crashes in front, side, rear, and rollover modes. Cover roles of vehicle structures and restraint systems in reducing risk of injury. Offered Winter.
Prerequisite: ME 8020 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

ME 8290 Advanced Combustion and Emissions II Cr. 4
Introduce single-component and multi-component droplet evaporation and combustion processes, liquid fuel sprays formation, evaporation and combustible mixture formation, comparison between autoignition of homogeneous and heterogeneous mixtures, diffusion flames, combustion of liquid sprays in compression ignition engines and emission control strategies along with advances in gasoline compression ignition engines. Offered Winter.
Prerequisite: ME 7260 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

ME 8999 Master's Thesis Research and Direction Cr. 1-8
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students with a class of Candidate Masters.
Repeatable for 8 Credits

ME 9990 Pre-Doctoral Candidacy Research Cr. 1-8
Research in preparation for doctoral dissertation. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 12 Credits

ME 9991 Doctoral Candidate Status I: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.

ME 9992 Doctoral Candidate Status II: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: ME 9991 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

ME 9993 Doctoral Candidate Status III: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: ME 9992 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

ME 9994 Doctoral Candidate Status IV: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: ME 9993 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

ME 9995 Candidate Maintenance Status: Doctoral Dissertation Research and Direction Cr. 0
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $370.26
Repeatable for 0 Credits

MED - MUSIC EDUCATION

MED 2500 Piano Skills for the Music Classroom Cr. 2
Continuation of MUA 2795. Additional practice with functional skills needed in music classroom. Students acquire a repertoire of musical selections commonly used in the educational setting. Offered Winter.
Prerequisite: MUA 2795 with a minimum grade of C
Course Material Fees: $75

MED 3500 Introduction to Music Education Cr. 2
Course work includes lesson-plan writing, introduction to methodologies, and participating in teaching experiences. Exploration of philosophical, historical, psychological, and cultural/social foundations of the profession in the context of practical exercises. Offered Fall.

MED 3510 Teaching General Music Cr. 2
Developing a knowledge base for teaching general music including application of learning theories, developmental characteristics of children, and appropriate literature, materials, and resources. Emphasis on structuring successful learning experiences through effective planning, delivery, and evaluation of music instruction for students in grades K-12. Offered Winter.
Prerequisite: MED 3500 with a minimum grade of C

MED 3990 Directed Study Cr. 1-3
Offered Fall, Winter.
Restriction(s): Enrollment limited to students with a class of Junior, Senior or Post Bachelor; enrollment is limited to students with a major in Music or Music Honors.
Repeatable for 6 Credits

MED 4510 Vocal Music in Schools I Cr. 3
Course expands and develops the knowledge base and teaching competencies introduced in MED 3510. Class activities explore strategies for engaging children in a variety of musical experiences that align with state and national standards. Fieldwork in the schools provides an opportunity to apply and refine specific teaching skills within a real-world setting. Emphasis on K-6 elementary music classroom. Offered Fall.
Prerequisite: MED 3500 with a minimum grade of C

MED 4530 Vocal Music in Schools II Cr. 3
Role of choral and vocal music education in secondary schools. Class activities, readings, and fieldwork focus on curriculum development, repertoire, score analysis, rehearsal planning, rehearsal techniques, vocal pedagogy and assessment. Organizational and managerial aspects such as recruitment, budgeting and scheduling are also included. Offered Winter.
Prerequisite: MED 4510 with a minimum grade of C

MED 4540 Instrumental Music in the Schools I Cr. 3
Teaching techniques, materials and organization of instrumental music in elementary schools. Offered Fall.
Prerequisite: MUA 1720 with a minimum grade of C and MUA 1730 with a minimum grade of C and MUA 1740 with a minimum grade of C and MUA 1750 with a minimum grade of C and MUA 1760 with a minimum grade of C and MED 3500 with a minimum grade of C

MED 4550 Instrumental Music in the Schools II Cr. 3
Teaching techniques, materials and organization of instrumental music in secondary schools. Offered Winter.
Prerequisite: MED 4540 with a minimum grade of C

MED 4560 Practicum in Music Education Cr. 2
Practicum provides field experiences in elementary or secondary school settings prior to full-time student teaching. Students apprentice with a cooperating teacher while assisting, observing and teaching throughout the semester. A minimum of 15 hours per week in an approved classroom is required. Offered Fall, Winter.
Prerequisite: MED 3500 with a minimum grade of C
Restriction(s): Enrollment limited to students in the College of Education.

MED 4570 Student Teaching and Seminar Cr. 8
Directed teaching in schools at grade levels for which advanced students are preparing for certification. Seminars feature discussion of important educational issues. Offered Fall, Winter.
Restriction(s): Enrollment limited to students in the College of Education.

MED 5550 Choral Conducting and Rehearsal Techniques Cr. 3
Conducting and rehearsal methods and materials for secondary schools. No credit for M.Mus. in conducting or music education. Offered Winter.
Prerequisite: MUA 3670 with a minimum grade of C

MED 5590 Applications of Technology in Music Teaching Cr. 2
Presentation of techniques and strategies for utilizing various hardware and software applications in classroom music instruction. Emphasis on evolving technologies, including collaborative media, smart technology, and interactive smartboard class materials. Offered Fall.
Restriction(s): Enrollment is limited to students with a major in Music.
Course Material Fees: $75

MED 7990 Directed Study in Music Education Cr. 1-3
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 6 Credits

MED 7999 Master's Essay Direction Cr. 3
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students with a class of Candidate Masters.

MED 8999 Master's Thesis Direction Cr. 1-8
Preparation of M.M. thesis project in music education. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in a Master of Music degree; enrollment limited to students in the Master of Music program.
Repeatable for 8 Credits

MGG - MOLECULAR GENETICS AND GENOMICS

MGG 6010 Molecular Biology and Genetics Cr. 4
Covers the basic aspects of molecular genetics. Students should have completed previous coursework in organic chemistry, introductory biology, and biochemistry or cell and molecular biology. Offered Yearly.
Restriction(s): Enrollment is limited to Undergraduate level students.

MGG 7010 Molecular Biology and Genetics Cr. 4
Basic aspects of molecular genetics. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.

MGG 7015 Introduction to Genetics Cr. 2
Forges a link between genotype and phenotype and covers topics in contemporary genetics, including Mendelian analysis, chromosomes, mitosis/meiosis, recombination, mutations and mutagenesis, linkage mapping, complementation, extranuclear inheritance, genetic interactions and epistasis, epigenetics, and developmental genetics. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.

MGG 7020 Metabolism and Disease Cr. 2
This course will review normal metabolic pathways and their regulation and then discuss in depth aberrant metabolism as it contributes to or causes diseases such as diabetes, cancer, and neurodegeneration. Didactic lectures will be complemented with student-based presentations of classic and current primary literature studies. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.

MGG 7030 Functional Genomics and Systems Biology Cr. 2
Exploration of several new technologies for determining gene function on a genome-wide scale and for integrating information into a systems-level view of biological processes. Offered Winter.
Prerequisite: IBS 7015 with a minimum grade of C or MGG 7010 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: IBS 7030

MGG 7050 Bioinformatics: theory and practice Cr. 3
This course will teach graduate students in the biological sciences how to use public web-based bioinformatics resources to analyze the structure and function of protein-coding and noncoding-RNA genes. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students.

MGG 7091 Scientific Communication Cr. 2
Advanced technical and grant-writing techniques related to the unique requirements in NIH grant proposals. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students.

MGG 7400 Molecular Biology of Cellular Signalling Cr. 2
Molecular basis of cell-cell interactions, hormonal interactions, and interactions between different cellular compartments. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.

MGG 7460 Research Training in Molecular Biology and Genetics Cr. 1-8
Direct participation in laboratory research under the supervision of faculty advisor. Design and execution of experiments; analysis of laboratory data; interpretation of results and their relation to published findings. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 8 Credits

MGG 7600 Advanced Human Genetics Cr. 4
Concepts, problems, and methods of human genetics at an advanced level. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.

MGG 7640 Principles of Genetic Counseling Cr. 4
History and evolution of genetic counseling and how it relates to clinical genetic services within the health care delivery system. Genetic counseling skills such as case preparation, interviewing techniques, and family history assessment; counseling methods. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.

MGG 7660 Practical Applications of Genetic Counseling Cr. 3
Provides the foundation for identifying and applying the practical aspects of genetic counseling, including genetic testing and billing and reimbursement, to the reproductive, cardiovascular, pediatric, neurogenetic and cancer genetics clinical settings. Offered Winter.
Prerequisite: MGG 7640 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

MGG 7710 Introduction to Medical Genetics Cr. 2
The principles of genetics and genomics related to medical genetics and how it is integrated into clinical practice. Offered Winter.
Restriction(s): Enrollment is limited to students with a major in Genetic Counseling.

MGG 7740 Theory and Practice of Genetic Counseling Cr. 3
Major theories of human behavior and application of these theories to the practice of genetic counseling. Development of interpersonal communication and psychosocial assessment skills. Offered Winter.
Prerequisite: MGG 7640 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

MGG 7741 Advanced Genetic Counseling Theory and Practice Cr. 3
Cultural, social, ethical, legal, professional and health-related issues that influence delivery of genetic counseling service and patient decision-making. Application of knowledge to practice. Offered Fall.
Prerequisite: MGG 7740 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

MGG 7800 Advanced Medical Genetics Cr. 3
Overview of medical genetic disorders taught at a level suitable for those preparing for certification examinations in clinical genetics specialties or for those whose research focus or clinical practice will have a strong emphasis in medical genetics. Offered Every Term.
Prerequisite: MGG 7600 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

MGG 7830 Human Development and Teratology Seminar Cr. 1
Through lecture, self-study, exam, and oral presentation, students learn key aspects of fetal development, the embryological basis of birth defects and genetic dysmorphology syndromes, clinical teratology, and the associated medical terminology. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.

MGG 7850 Current Topics in Molecular Biology and Genetics Cr. 2
Current literature in molecular biology and genetics; one student makes oral presentation with student and faculty discussion. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 4 Credits

MGG 7860 Evaluating the Health Care Literature Cr. 1
Reading and analysis of health care literature with focus on research articles. Principles of health research design and analysis; skills for critical assessment of medical literature. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major, minor, or concentration in Genetic Counseling.

MGG 7880 Genetic Counseling Seminar Cr. 1-6
Discussion format; issues relevant to medical genetics and the genetic counseling process. Presentations by students and invited faculty. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.

MGG 7881 Senior Seminar in Genetic Counseling Cr. 2
Preparation for the transition to from student to practicing professional in the areas of the job search, billing and reimbursement, clinical supervision, developing effective educational programs, advocacy, and other relevant areas. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students.

MGG 7998 Master's Essay in Molecular Genetics and Genomics Cr. 3
Students will write a scholarly document (essay) based upon a topic of ongoing research in genetics or genomics. Offered Every Term.
Restriction(s): Enrollment limited to students with a class of Candidate Masters; enrollment is limited to students with a major in Molecular Genetics & Genomics.

MGG 7999 Master's Research Project and Direction Cr. 1-5
Student conducts hypothesis-driven research and prepares written manuscript and oral presentation. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major, minor, or concentration in Genetic Counseling; enrollment limited to students in a MS in Genetic Counseling degree.
Repeatable for 5 Credits

MGG 8010 Quantitative Data Analysis for Biological and Medical Sciences Cr. 2
Covers several of the statistical concepts and data analytic skills needed to succeed in data-driven life science research, beginning with relatively basic concepts related to computing p-values and advancing to topics related to analyzing high-throughput data. Offered Every Other Fall.
Restriction(s): Enrollment is limited to Graduate level students.

MGG 8680 Advanced Topics in Molecular Genetics and Genomics Cr. 1-3
Offers an in-depth study of concepts and research in specific fields. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 12 Credits

MGG 8770 Molecular Biology of Mitochondrial Disease Cr. 2
Mitochondrial structure and function; mitochondria as sites of phenomena such as cell death, generation of free radicals, and production of most cellular energy. Traditional mitochondrial diseases (e.g., caused by mutations in the mitochondrial DNA); more recent findings of involvement of mitochondria in pathologies such as cancer, diabetes, aging, and neurodegenerative diseases. Offered Fall.
Prerequisite: IBS 7015 with a minimum grade of C or MGG 7010 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

MGG 8998 Genetic Counseling Internship Cr. 1-8
Students work in variety of genetics and subspecialty clinics as well as laboratory settings, under supervision of genetic counselor/geneticist. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major, minor, or concentration in Genetic Counseling; enrollment limited to students in a MS in Genetic Counseling degree.
Repeatable for 8 Credits

MGG 8999 Master's Thesis Research and Direction Cr. 1-8
Student conducts research and prepares written presentation, designed to test specific hypothesis dealing with method, concept, or data. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students with a class of Candidate Masters; enrollment is limited to students with a major, minor, or concentration in Molecular Biology and Genetics; enrollment limited to students in a Master of Science degree.
Repeatable for 8 Credits

MGG 9990 Pre-Doctoral Candidacy Research Cr. 1-8
Research in preparation for doctoral dissertation. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 12 Credits

MGG 9991 Doctoral Candidate Status I: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.

MGG 9992 Doctoral Candidate Status II: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: MBG 9991 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

MGG 9993 Doctoral Candidate Status III: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: MBG 9992 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

MGG 9994 Doctoral Candidate Status IV: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: MBG 9993 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

MGG 9995 Candidate Maintenance Status: Doctoral Dissertation Research and Direction Cr. 0
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $370.26
Repeatable for 0 Credits

MGT - MANAGEMENT

MGT 2530 Management of Organizational Behavior Cr. 3
Applied issues in management examined through a focus on the organization and its external environment, group functions and processes, and employee attitudes and behaviors. Offered Every Term.
Prerequisites: PSY 1010 with a minimum grade of D- or PSY 1020 with a minimum grade of D-

MGT 4500 Business Co-op Assignment Cr. 0
Must be elected by Professional Development Co-operative Program students during work semester. Offered for S and U grades only. No credit toward degree. Opportunity to put theory into practice on the job. Students will normally be assigned to cooperating business organizations for internship periods of one semester. Offered Every Term.
Equivalent: ACC 4500, FIN 4500, MKT 4500

MGT 4990 Directed Study in Management Cr. 1-3
Advanced readings and research or tutorial under the supervision of a faculty member in areas of special interest to student and faculty member. Offered Every Term.
Prerequisites: MGT 5510 with a minimum grade of D- and MGT 5530 with a minimum grade of D-
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.
Repeatable for 6 Credits

MGT 4991 Study Abroad in Management Cr. 3
Study abroad programs in various countries. Programs run 10-15 days in length. Recent country programs in China, Poland, and Italy. Travel within a given country with visits to various companies and cultural attractions. Traveling costs are over and above tuition and vary by country. Various reading and assignments required. Offered Every Term.
Equivalent: GSC 4991, MKT 4991
Repeatable for 6 Credits

MGT 5100 Introduction to Sport & Entertainment Management Cr. 3
Provides an overview of the sport & entertainment industry, and examines issues encountered by sport and entertainment managers with special emphasis on the use of business principles to identify, attract and retain consumers. Offered Every Term.
Equivalent: SEM 5100

MGT 5510 Managing Organizational Structure and Processes Cr. 3
Analysis of strategic pressures on the organization. Application of advanced concepts of structured organizational change to contemporary organizational design problems. Offered for undergraduate credit only. Offered Fall, Winter.
Prerequisites: MGT 2530 with a minimum grade of D-
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

MGT 5530 Advanced Organizational Behavior Cr. 3
Analysis and application of advanced organizational behavior concepts relevant to managing in a complex and changing environment. Topics include: leading and managing organizational change; solving workplace problems creatively; communicating effectively in a diverse work environment; building and empowering effective teams. Offered for undergraduate credit only. Offered Fall, Winter.
Prerequisites: MGT 2530 with a minimum grade of D-
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

MGT 5650 The Entrepreneur and Venture Creation Cr. 3
Nature of entrepreneurship and the role of the entrepreneur in society. Focus on the critical factors and special problems associated with the process of creating new business ventures. Emphasis on development of a business plan. Offered for undergraduate credit only. Offered Yearly.
Prerequisites: ACC 3010 with a minimum grade of C and FIN 3290 with a minimum grade of D- and MGT 2530 with a minimum grade of D- and MKT 2300 with a minimum grade of D-
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

MGT 5700 Human Resource Management Cr. 3
Theory, policies, procedures and practices in employment relationships. Topics: strategic HRM, legal environment of HRM, equal employment opportunity, job analysis and design, employment planning, recruitment, selection, training and development, performance appraisal, compensation and benefits, labor relations, health and safety. Managerial and policy implications; linkages between HRM practices and organizational effectiveness. Offered for undergraduate credit only. Offered Every Term.
Prerequisites: MGT 2530 with a minimum grade of D-
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

MGT 5740 Collective Bargaining Cr. 3
Development of union-management relationships, including legal environment of labor relations; philosophy and practice of collective bargaining, major challenges facing unions and employers today. A bargaining simulation is normally utilized. Offered for undergraduate credit only. Offered Yearly.
Prerequisites: MGT 2530 with a minimum grade of D-
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

MGT 5770 Advanced Human Resource Management Cr. 3
In-depth study of contemporary human resource practices. Specific personnel techniques discussed and analyzed through applications. Offered for undergraduate credit only. Offered Fall, Winter.
Prerequisites: MGT 5700 with a minimum grade of D-
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

MGT 5790 Internship in Management Cr. 3
Student performs assigned tasks and responsibilities in a professional manner under supervision of host-employer for minimum 160 hours during the semester, abiding by rules and regulations established by the employer and expected of all employees; student must satisfactorily complete all course requirements outlined in the internship program for the School of Business Administration. Offered for undergraduate credit only. Offered Every Term.
Prerequisites: MGT 2530 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

MGT 5900 Project Management Cr. 3
Understanding and appreciation of the different knowledge areas of project management. Insight into developing the inputs, tools, techniques, and outputs to successfully manage products. Offered for undergraduate credit only. Offered Yearly.
Prerequisites: ISM 3630 with a minimum grade of C and MGT 2530 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.
Equivalent: ISM 5900

MGT 6890 Strategic Management and Business Policy Cr. 3
Managing the firm as an integrated unit under conditions of uncertainty. Integration of concepts and skills covered in previous specialized courses. Offered for undergraduate credit only. Offered Every Term.
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

MGT 6995 Topics in Management Cr. 3
Integration and application of management theory to applied projects in a variety of areas (i.e., human resource management, manufacturing, and information systems) with a focus on leadership. Offered for undergraduate credit only. Offered Every Term.
Prerequisites: MGT 5530 with a minimum grade of C- and MGT 5700 with a minimum grade of C-
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

MGT 7620 Complex Organizations Cr. 3
The formal structure and processes in complex organizations: departmentalization, decentralization, authority and power, relationships between groups, organizational design and evaluation. Factors affecting organizational design, adaptation to environments, and designing effective decision-making systems. Offered Every Term.
Prerequisites: BA 7040 with a minimum grade of C or MGT 7640 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

MGT 7630 Organizational Change and Development Cr. 3
Analysis of the impact of dynamic forces, particularly globalization, on the theory, methods, and skills involved in designing and implementing planned changes in organizations. Offered Intermittently.
Prerequisites: BA 7040 with a minimum grade of C or MGT 7640 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

MGT 7640 Management of Human Resources Cr. 3
Theory, policy, research and process issues in employment relationships. The specific personnel practices of planning, selecting, employee development and appraisal, compensation and labor relations examined as they relate to conceptual and pragmatic views of management or employee behavior. Offered Every Term.
Prerequisites: BA 7040 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

MGT 7650 Strategic Human Resource Management Cr. 3
Survey of human resource management from a strategic perspective. Formulation and implementation of human resource strategy addressed for recruitment, placement, training, development, issues in an international community. Offered Yearly.
Prerequisite: MGT 7640 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

MGT 7660 Entrepreneurial Management Cr. 3
Nature of entrepreneurship and role of entrepreneur. Focus on problematic issues involved in creating and managing a small business. Emphasis on special knowledge and skills required of an entrepreneurial manager. Individual students may act as consultants to entrepreneurs or small business owner/managers. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.

MGT 7700 Leadership and Management of Innovation and Technology Cr. 3
Technology and innovation in corporations. Building on principles of leadership and management, consideration of technology, innovation, organizational effectiveness and global competition. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.

MGT 7750 Labor Relations and Collective Bargaining Cr. 3
Forces affecting the character and quality of industrial relations and collective bargaining in the United States; their influence on contract negotiations and grievances. Major challenges facing unions and employers today. A collective bargaining situation is generally used, in which participants plan for negotiations and bargain contract issues. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.

MGT 7770 Union Contract Administration Cr. 3
Daily union-management relations. Grievance handling and arbitration. The causes of labor-management conflicts under a union contract. Offered Yearly.
Prerequisite: MGT 7750 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

MGT 7780 Concepts and Processes of Dispute Resolution I: Negotiating Theory and Practice Cr. 3
Theoretical foundations of processes of negotiation and multi-party collaborative problem solving. Skill building simulation to integrate theory and practice. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: DR 7210

MGT 7790 Compensation Administration Cr. 3
Process policy and theoretical issues in pay and benefits administration; determination of structural level of individual pay, non-traditional reward systems, and government regulation of benefits. Offered Yearly.
Prerequisite: MGT 7640 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

MGT 7815 Strategic Leadership Cr. 3
Academic and practitioner views of strategic leadership to understand the dynamics of leadership influence in complex organizations. Offered Fall, Winter.
Prerequisite: BA 7040 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

MGT 7816 Leading in Organizations Cr. 3
Leadership competency development. Participant assessment precedes developmental planning and the formation of feedback and support networks. Offered Yearly.
Prerequisite: BA 7040 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

MGT 7850 Management through Constructive Persuasion Cr. 3
Introduction to methods of persuasion. Students learn how persuasion strategies can be applied in listening, speaking and written formats for business management situations. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.

MGT 7895 Internship in Management Cr. 3
Students work a minimum of 160 hours for fifteen weeks in an entry-level management position in management. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.

MGT 7900 Project Management Cr. 3
Management of resources (budget, personnel, materials, etc.) within the scope of a given project; understanding and appreciation for the different knowledge areas of project management; insight into identification of inputs, tools, and techniques of project management. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: ISM 7900

MGT 7950 Business and Sustainability Cr. 3
How organizations can be good to the environment while being profitable. Sustainability concerns such as climate change, rising energy prices, natural resource depletions, and air pollution. Evaluation of aspects of business operations including marketing and communications, stakeholder engagement, product development, operations, supply chain management, and reporting concerns. Offered Fall.
Prerequisites: BA 7040 with a minimum grade of C or BA 7050 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: MKT 7950

MGT 7995 Directed Study in Management Cr. 1-3
Advanced independent readings and research under supervision of a graduate faculty member in areas of special interest to student and faculty member. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 3 Credits

MGT 8000 Seminar in Management Cr. 3
Selected topics in the management and organizational sciences. Offered Intermittently.
Prerequisite: BA 7040 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 6 Credits

MIT - MANUFACTURING AND INDUSTRIAL ENGINEERING TECHNOLOGY

MIT 3350 Applied Human Factors Cr. 3
Introduction to human physiological and psychological functions and capabilities from an engineering viewpoint; sensory information processing and motor abilities, human-machine design aspects. Offered Yearly.

MIT 3500 Machine Tool Laboratory Cr. 1
Laboratory experiences in manufacturing processes, machine tools, and mechanization. Calibration and part-setup. Offered Fall, Winter.
Prerequisites: ET 2140 with a minimum grade of C-

MIT 3520 Manufacturing Processes Theory Cr. 2
Nature and deformation behavior of materials commonly used in manufacturing; basic processes used in transforming them into useful products; scientific theory underlying those processes; criteria for selecting particular processes. Offered Fall, Winter.
Prerequisites: CHM 1020 with a minimum grade of C- and May be taken concurrently: MIT 3500 with a minimum grade of C-

MIT 3600 Process Engineering Cr. 3
Processing functions. Methods of manufacturing analysis. Manufacturing sequence, mechanization. Selection of tooling and equipment. Planning the process of manufacture. Offered Yearly.
Prerequisites: MIT 3520 with a minimum grade of C-

MIT 4700 Computer-Aided Design and Manufacturing Cr. 3
Fundamentals of computer-aided manufacturing using computer software. Two- and three-dimensional applications programming, numerical control and programming. Offered Yearly.
Prerequisites: ET 2140 with a minimum grade of C- and MIT 3520 with a minimum grade of C- or MIT 3510 with a minimum grade of C-
Course Material Fees: $25

MIT 4800 Quality Control Cr. 4
Introduction to total quality systems design and to basic analytical techniques for quality control. Offered Intermittently.
Prerequisites: ET 3850 with a minimum grade of C-

MIT 4990 Guided Study Cr. 1-6
Supervised study and instruction in the field selected by the student. Offered Intermittently.
Repeatable for 6 Credits

MIT 5500 Machine Tool Laboratory Cr. 1
Laboratory experiences in manufacturing processes, machine tools, and mechanization. Calibration and part-setup. Offered Fall, Winter.
Prerequisites: ET 2140 with a minimum grade of C-

MIT 5700 Industrial Robots Modeling and Simulation Cr. 4
Topics include: the direct kinematic problem (homogeneous transformation matrices, composite homogeneous transformation matrix, links, joints and their parameters, the Denavit-Hartenberg representation, kinematic equations for manipulators); the inverse kinematic problem (geometric approach applied for 2DOF, 3DOF, 4DOF, 5DOF, and 6DOF manipulators; modeling, simulation and off-line programming of industrial robots and cobots (collaborative robots); and current trends and research in industrial robotics and cobotics. Offered Winter.
Restriction(s): Enrollment is limited to Graduate or Undergraduate level students; enrollment limited to students with a class of Unranked Grad or Senior.

MIT 7700 Robotics and Flexible Manufacturing Cr. 4
Kinematics, dynamics and controls of the manipulators, their design and applications in flexible manufacturing cells. Computer-integrated manufacturing. Offered Intermittently.
Prerequisite: ET 7430 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

MKT - MARKETING

MKT 2300 Marketing Management Cr. 3
Planning the marketing program within social, economic and legal environments, market segmentation and behavior, market systems and strategy, international marketing. Offered Every Term.
Prerequisites: ECO 2010 with a minimum grade of D-
Restriction(s): Enrollment limited to students in the School of Business.

MKT 4500 Business Co-op Assignment Cr. 0
Must be elected by Professional Development Co-operative Program students during work semester. Offered for S and U grades only. No credit toward degree. Opportunity to put theory into practice on the job. Students will normally be assigned to cooperating business organizations for internship periods of one semester. Offered Every Term.
Equivalent: ACC 4500, FIN 4500, MGT 4500

MKT 4990 Directed Study in Marketing Cr. 1-3
Advanced readings and research or tutorial under the supervision of a faculty member in areas of special interest to student and faculty member. Offered Every Term.
Prerequisites: MKT 5410 with a minimum grade of D- and MKT 5450 with a minimum grade of D-
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.
Repeatable for 6 Credits

MKT 4991 Study Abroad in Marketing Cr. 3
Study abroad programs in various countries. Programs run 10-15 days in length. Recent country programs have been in China, Poland, and Italy. Travel within a given country with visits to various companies and cultural attractions.Traveling costs are over and above tuition and vary by country. Various reading and assignments required. Offered Winter, Spring/Summer.
Equivalent: GSC 4991, MGT 4991
Repeatable for 6 Credits

MKT 5410 Marketing Research and Analysis Cr. 3
Methods of gathering and analyzing data which will facilitate the identification and solution of marketing problems. Planning the project, data sources for exploratory and conclusive research. Questionnaire construction, sample design, and design of marketing experiments. Offered for undergraduate credit only. Offered Fall, Winter.
Prerequisites: MKT 2300 with a minimum grade of D- and BA 3400 with a minimum grade of D-
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

MKT 5450 Consumer Behavior Cr. 3
Concepts and theories to explain consumer and organizational buyer behavior. Application of this understanding to marketing management and public policy decision making. Offered for undergraduate credit only. Offered Fall, Winter.
Prerequisites: MKT 2300 with a minimum grade of D-
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

MKT 5460 Sales Management Cr. 3
Organization and direction of a sales organization including selection, training, compensation, supervision, motivation, budgets, quotas, territories, and sales analysis. Offered for undergraduate credit only. Offered Every Term.
Prerequisites: MKT 2300 with a minimum grade of D-
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

MKT 5490 Principles of Advertising Cr. 3
Basic elements of advertising research, media, and creative strategies, including integrated marketing communications. Applications include development of advertising for local business organizations. Offered for undergraduate credit only. Offered Fall, Winter.
Prerequisites: MKT 2300 with a minimum grade of D-
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

MKT 5500 Advertising Copy Cr. 3
Principles of effective advertising copy and application in consumer and industrial advertisements. Exercises in writing, criticizing, testing, and revising magazine, newspaper, radio, television, outdoor and direct mail advertisements. Offered for undergraduate credit only. Offered Winter.
Prerequisites: MKT 5490 with a minimum grade of D-
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

MKT 5510 Advertising Media Planning Cr. 3
Influence of marketing, creative and media objectives upon media planning. Information systems, budgeting approaches, media characteristics, media models, schedule construction, execution, and auditing. Offered for undergraduate credit only. Offered Yearly.
Prerequisites: MKT 5490 with a minimum grade of D-
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

MKT 5520 Public Relations of Business Cr. 3
Philosophy of public relations of business, history of public relations, study of public opinion, the public relations process, tools of communication, uses of mass media in public relations work, and analysis of methods employed in establishing sound public relations programs. Offered for undergraduate credit only. Offered Fall.
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

MKT 5700 Retail Management Cr. 3
Retailing concepts and problems. Competitive structure, store location, organization, buying, inventory control, sales promotion, pricing, credit policy, customer services, research and franchising. Offered for undergraduate credit only. Offered Fall, Winter.
Prerequisites: MKT 2300 with a minimum grade of D-
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

MKT 5750 International Marketing Management Cr. 3
Offered for undergraduate credit only. Offered Winter.
Prerequisites: MKT 2300 with a minimum grade of D-
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

MKT 5800 Introduction to Digital Marketing and Analytics Cr. 3
Team-taught course, focuses on all of the major aspects of digital marketing and how to analyze that marketing performance using major (and in some cases native) analytical tools. Examines web analytics, search engine optimization (SEO), e-commerce, social media, online advertising, email marketing and a slew of up-and-coming online marketing techniques each segment of digital marketing is widely used across the marketing profession and we will discuss the strengths and weaknesses of each one in addition to determining when best to use each type. Offered Fall.
Prerequisite: MKT 2300 with a minimum grade of C

MKT 5840 Special Topics in Marketing Cr. 3
Offered for undergraduate credit only. Offered Every Term.
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

MKT 5850 Integrated Marketing Communications Strategy Cr. 3
Application of basic advertising skills to development of a fully-integrated marketing communications program for a major national or international business; research, media, creative, and promotion strategies. Offered for undergraduate credit only. Offered Winter.
Prerequisites: MKT 5490 with a minimum grade of D-
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

MKT 5890 Internship in Marketing Cr. 3
Consult School of Business Administration website for further guidelines and application form for the internship. Offered for undergraduate credit only. Offered Every Term.
Prerequisites: MKT 2300 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

MKT 6996 Strategic Marketing Cr. 3
Capstone course in the marketing sequence; includes four components designed to develop skills in planning and development of strategies to solve marketing problems. Offered for undergraduate credit only. Offered Every Term.
Prerequisites: MKT 2300 with a minimum grade of D- and MKT 5410 with a minimum grade of D- and MKT 5450 with a minimum grade of D-
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Business.

MKT 7150 Global Automotive Marketing Strategy Cr. 3
Marketing concepts, strategies, and tactics in global automotive industry. Marketing principles, role of marketing, target market selection, segmentation, brand management, distribution systems. Offered Spring/Summer.
Prerequisites: BA 6015 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

MKT 7430 Advertising Management Cr. 3
Planning, implementing, and controlling advertising and sales promotion. Internal and external relationships of the advertising department, determining advertising objectives and copy platform, setting the budget, selecting media and measuring advertising effectiveness. Offered Fall, Winter.
Prerequisites: BA 7050 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

MKT 7450 Business Research and Methodology Cr. 3
An intensive study of the objectives and methodologies of research for business decisions. Course topics include: the scientific method, primary and secondary data sources, research design, reliability and validity, sampling, and applied statistics. Focus on the development of decision-oriented research information for all aspects of a business organization. Offered Fall, Winter.
Prerequisites: BA 7050 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

MKT 7460 International Business Cr. 3
Globalization, the multinational firm, and emerging economies. Evolution of the international monetary environment and monetary systems. Theory of the multinational firm and foreign direct investment. Cultural and market opportunity analyses. Internationalization patterns and modes of foreign market entry. Strategic and organizational choice in international business. International alliances and emerging market economies. Fundamentals of international financial management. Offered Fall.
Prerequisites: BA 7050 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

MKT 7470 Consumer and Industrial Buying Behavior Cr. 3
Behavioral theory as it relates to consumer and industrial decision processes. Relevant concepts, theories, and recent research findings are drawn from the fields of marketing, psychology, social psychology, and communications. Examination of consumer and industrial buying practices. Offered Fall.
Prerequisites: BA 7050 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

MKT 7500 International Marketing Strategy Cr. 3
Globalization and marketing in the current decade. Marketing and research in the international environment. Cross-national consumer behavior and cross-national segmentation, targeting, and positioning. Product policy and branding in the international environment. International pricing, supply chain management, and communication strategy. Global branding. Marketing problems and opportunities in emerging markets. Organizational and strategic issues in global marketing. Offered Winter.
Prerequisites: BA 7050 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

MKT 7700 Management of Retail Enterprises Cr. 3
In-depth study of the retail mix variables as they relate to products and services, pricing, promotion, place, and operating policies. Merchandising, inventory controls, store operations, and research approaches in monitoring current trends in retail management. Offered Intermittently.
Prerequisites: BA 7050 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

MKT 7860 Social Media and Digital Marketing Analytics Cr. 3
Students will examine some of the top social media platforms today and the analytics used to measure their effectiveness. In addition, students will learn the basics of building a digital marketing team including how to manage digital marketing employees. Offered Winter, Spring/Summer.
Prerequisite: BA 7050 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

MKT 7870 Seminar in Marketing Cr. 3
In-depth exploration of new and important subjects or techniques in marketing. Topics vary by semester; consult instructor. Offered Intermittently.
Prerequisite: BA 7050 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

MKT 7890 Internship in Marketing Cr. 3
Students work a minimum of 160 hours for fifteen weeks in an entry-level management position in marketing. Offered Every Term.
Prerequisites: BA 7050 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

MKT 7950 Business and Sustainability Cr. 3
How organizations can be good to the environment while being profitable. Sustainability concerns such as climate change, rising energy prices, natural resource depletions, and air pollution. Evaluation of aspects of business operations including marketing and communications, stakeholder engagement, product development, operations, supply chain management, and reporting concerns. Offered Fall.
Prerequisites: BA 7040 with a minimum grade of C or BA 7050 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: MGT 7950

MKT 7995 Directed Study in Marketing Cr. 1-3
Advanced independent readings and research under supervision of a graduate faculty member in areas of special interest to student and faculty member. Offered Every Term.
Prerequisites: BA 7050 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 5 Credits

MS - MORTUARY SCIENCE

MS 3100 Thanatochemistry Cr. 2
Discussion, problem solving, and application of general inorganic, organic and biochemistry to postmortem changes, biologic preservation, and embalming chemistry. Course includes a problem-based laboratory and case studies with correlations to embalming chemistry. Offered Winter.
Prerequisite: CHM 1000 with a minimum grade of C
Restriction(s): Enrollment limited to students in the BS in Mortuary Science program.

MS 3300 Religions, Values, and Death Cr. 2
Various religious, secular, and philosophical views regarding the value of life, the meaning of death, and life after death. Offered Winter.
Restriction(s): Enrollment limited to students in the BS in Mortuary Science, BS in Pathologist Assistant or PBC in Forensic Investigation programs.

MS 3400 Funeral Service Law and Ethics I Cr. 3
Business law and legal environment affecting funeral service. Introduction to American legal system, court structure, and civil & criminal procedure. Contract law, property law and UCC Articles 2, 3, and 9. Survey of tort law. Discussion and problems based on the ethical responsibilities of funeral practitioners Offered Winter.
Restriction(s): Enrollment limited to students in the BS in Mortuary Science program.

MS 3410 Funeral Service Law and Ethics II Cr. 3
Legal principles affecting funeral service including legal status of a deceased, rights and responsibilities affecting disposition, licensing laws, regulatory compliance, preneed and probate law. Funeral service torts and discussion and problems on due diligence, best practices, and ethical responsibilities of funeral practitioners. Offered Spring/Summer.
Restriction(s): Enrollment limited to students in the BS in Mortuary Science program.
Course Material Fees: $60

MS 3500 Embalming I Cr. 2
Theories, practices, and techniques of biologic preservation and disinfection of human remains; case analyses; methods of application of embalming chemicals; use of instruments and equipment; special case embalming. Offered Fall.
Restriction(s): Enrollment limited to students in the BS in Mortuary Science program.
Course Material Fees: $200

MS 3510 Embalming II Cr. 2
Dynamics of decomposition; influence of disease and its treatment on the embalming process; public health considerations; anatomical embalming; disaster response. Offered Winter.
Prerequisite: MS 3500 with a minimum grade of C
Restriction(s): Enrollment limited to students in the BS in Mortuary Science program.
Course Material Fees: $200

MS 3600 Restorative Art I Cr. 3
Theories, methods, and techniques used in the restoration of superficial tissues and features. Color theory, cosmetology, facial proportions, skin tones correlated with reconstruction. Clay and wax modeling. Case studies in restorative art. Offered Fall.
Restriction(s): Enrollment limited to students in the BS in Mortuary Science program.
Course Material Fees: $50

MS 3610 Restorative Art II Cr. 2
Continuation of MS 3600. Offered Winter.
Prerequisite: MS 3600 with a minimum grade of C
Restriction(s): Enrollment limited to students in the BS in Mortuary Science program.
Course Material Fees: $35

MS 3620 Preparation for Disposition Cr. 2
Preparing the decedent for disposition, including handling of personal effects, refrigeration, container selection, identification viewing, dressing, transportation and special ceremonial preparation. Offered Spring/Summer.
Prerequisite: MS 3610 with a minimum grade of C
Restriction(s): Enrollment limited to students in the BS in Mortuary Science program.
Course Material Fees: $200

MS 3760 Funeral Service History and Trends Cr. 2
Basic human need to memorialize the dead, examined throughout history. Funeralization as a process affected by social and religious change. The funeral service professional in a socio-temporal context. Possible future practices based on understanding of historical records and current trends. Offered Spring/Summer.
Restriction(s): Enrollment limited to students in the BS in Mortuary Science program.

MS 3800 Funeral Directing Cr. 3
Funeral service operations. Practical applications including field trips. Funeral service process from first call to final disposition. Terminology, government regulations, ethics, professional conduct, vital statistics records, necessary forms. Religious, ethnic, fraternal and military variations. Computer technologies and applications. Offered Fall.
Restriction(s): Enrollment limited to students in the BS in Mortuary Science program.
Course Material Fees: $80

MS 3810 Funeral Service Marketing and Merchandising Cr. 3
Marketing, merchandising, public relations, pre-need planning, personnel management, job-seeking skills, licensing requirements; planning, building and establishing of funeral home. Government regulations. Offered Fall.
Prerequisite: MS 3800 with a minimum grade of C
Restriction(s): Enrollment limited to students in the BS in Mortuary Science program.
Course Material Fees: $80

MS 3830 Psychology of Death and Dying Cr. 3
Various social and cultural perspectives; psychosocial changes related to death, dying, and disposition; special cases: sudden, violent or unexpected death. Offered Fall.
Restriction(s): Enrollment limited to students in the BS in Mortuary Science program.

MS 3840 Psychosocial Aspects of Grief Cr. 3
Psychology of funeral service practices; social role of funeral service practitioner in the dynamics of grief; psychosocial interpretations of changing attitudes toward death; normal and abnormal grief responses; sociology of funeral service. Offered Spring/Summer.
Prerequisite: MS 3830 with a minimum grade of C
Restriction(s): Enrollment limited to students in the BS in Mortuary Science program.

MS 3970 Practicum I Cr. 3
Student placement in licensed funeral service facility to acquire practical experience in basic funeral service skills. Offered Fall.
Restriction(s): Enrollment limited to students in the BS in Mortuary Science program.
Course Material Fees: $30

MS 3980 Practicum II Cr. 3
Continuation of the Practicum I course. Students are placed in a licensed funeral service facility to acquire practical experience in advanced funeral service skills. Offered Winter.
Prerequisite: MS 3970 with a minimum grade of P
Restriction(s): Enrollment limited to students in the BS in Mortuary Science program.
Course Material Fees: $30

MS 4000 Practicum III Cr. 3
Continuation of the Practicum II course. Students are placed in a licensed funeral service facility to acquire practical experience in advanced funeral service skills and evaluation of clinical embalming competency. Offered Spring/Summer.
Prerequisite: MS 3970 with a minimum grade of P and MS 3980 with a minimum grade of P
Restriction(s): Enrollment limited to students in the BS in Mortuary Science program.

MS 4010 Forensic Laboratory Standards Cr. 3
The forensic lab, its organization, accreditation, and regulation; quality control, safety, and documentation; discussion and demonstration of methods for collection and processing of specimens. Specimen extraction techniques and analyte-specific analytical instrumentation used in forensic laboratory. Basis for the forensic logic tree. Offered Fall.
Restriction(s): Enrollment is limited to students with a major, minor, or concentration in Forensic Invest and Policing or Forensic Investigation.

MS 4011 Interview and Interrogation Techniques Cr. 3
Appropriate and effective techniques for conducting interviews in forensic investigations. Effective and efficient techniques for interviewing witnesses and interrogating defendants. Legal issues surrounding investigations; strategies in gathering information and obtaining confessions. Offered Fall.
Restriction(s): Enrollment is limited to students with a major, minor, or concentration in Forensic Invest and Policing or Forensic Investigation.

MS 4050 Anatomy for Mortuary Science Cr. 2
Detailed systemic study of human anatomy. Laboratory work consists of demonstrations and selected dissections; emphasis on vascular anatomy and adjacent structural relationships; anatomic guides. Material Fee As Indicated In The Schedule of Classes. Offered Fall.
Restriction(s): Enrollment limited to students in the BS in Mortuary Science program.
Course Material Fees: $30

MS 4200 Introduction to Forensic Anatomic Pathology Cr. 3
Role of medical examiner, early signs of death, medical investigation of cause of death, methods for identification of remains, medicolegal aspects of forensic science, toxicology specimen techniques, legal issues in anatomic/forensic pathology. Offered Spring/Summer.
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences; enrollment limited to students in the BS in Pathologist Assistant or PBC in Forensic Investigation programs.

MS 4250 Pathology and Microbiology for Mortuary Science Cr. 3
Discussion and application of pathogenic microbial agents; host-parasite relationships; disinfection-decontamination; immunology; epidemiology of infectious disease; and public health issues. Basic study of disease states and processes that may negatively impact restorative art efforts or the success of preservation through embalming. Lecture and problem-based laboratory/case studies. Offered Winter.
Restriction(s): Enrollment limited to students in the BS in Mortuary Science program.

MS 4450 Funeral Service Management and Accounting Cr. 3
Financial aspects of starting and operating a funeral business; basic accounting principles; dealings with fellow professionals and government agencies. Offered Spring/Summer.
Prerequisite: ACC 3010 with a minimum grade of D-
Restriction(s): Enrollment limited to students in the BS in Mortuary Science program.

MS 4500 Clinical Autopsy Pathology Cr. 6
Autopsy procedures, including data retention, dissection techniques, selection of tissue for microscopic examination, and methods of body restoration prior to release. Course addresses clinical Gross Anatomy Techniques and Gross Pediatric Pathology techniques. Offered Every Term.
Restriction(s): Enrollment limited to students with a class of Senior; enrollment limited to students in the BS in Pathologist Assistant program.

MS 4600 Clinical Forensic Pathology Cr. 3-5
Assisting pathologist in determining cause of death; basic methods for identifying remains with regard to age, sex, and race; techniques of photographic record keeping. Offered Every Term.
Restriction(s): Enrollment limited to students with a class of Senior; enrollment limited to students in the BS in Pathologist Assistant or PBC in Forensic Investigation programs.
Course Material Fees: $30

MS 4650 Clinical Surgical Pathology Cr. 5
Principles, theories, and clinical practices related to gross surgical dissections. Offered Every Term.
Restriction(s): Enrollment limited to students with a class of Senior; enrollment limited to students in the BS in Pathologist Assistant program.

MS 4700 Clinical Pathology Cr. 3
Fundamental processes in benign and malignant hematopathology and lymphoid tissue; interpretation of clinical chemistry values, tumor markers, laboratory values, and the evolution of clinical and pathology case studies. Offered Every Term.
Restriction(s): Enrollment limited to students with a class of Senior; enrollment limited to students in the BS in Pathologist Assistant program.

MS 4800 Clinical Photography Cr. 2
Techniques required to photographically record gross and microscopic specimens as presented from surgery. Offered Every Term.
Restriction(s): Enrollment limited to students with a class of Senior; enrollment limited to students in the BS in Pathologist Assistant program.

MS 4850 Clinical Academic Pathology Cr. 6
Principles and theories of surgical diagnostic pathology and mechanisms of disease. Offered Every Term.
Restriction(s): Enrollment limited to students with a class of Senior; enrollment limited to students in the BS in Pathologist Assistant program.

MS 5010 Forensic Analysis Cr. 2
New developments in the forensic laboratory; current areas of research and potential applications. Forensic logic trees and forensic case applications; novel techniques in crime scene investigation and analysis. Offered Winter.
Prerequisite: MS 4010 with a minimum grade of C
Restriction(s): Enrollment is limited to students with a major, minor, or concentration in Forensic Invest and Policing or Forensic Investigation.

MS 5011 Forensic Investigation of Firearms, Ballistics, and Explosives Cr. 4
Introduction to firearm operation, identification, ballistics and explosive materials and devices from the perspective of forensic evaluation. Principles of forensic evidence collection and analysis discussed in lab. Offered in collaboration with Bioengineering Center Ballistic Research Laboratory. Offered Winter.
Prerequisite: MS 4010 with a minimum grade of C or MS 6010 with a minimum grade of C
Restriction(s): Enrollment is limited to students with a major, minor, or concentration in Forensic Invest and Policing or Forensic Investigation.
Course Material Fees: $40

MS 5350 Funeral Service Communications Cr. 1
Survey of professional communication in funeral service, including: verbal and non-verbal communication strategies, email and written communication, principles of customer service, public relations, networking, conflict resolution, workplace and professional expectations. Offered Winter.
Restriction(s): Enrollment limited to students in the BS in Mortuary Science program.

MS 5550 Special Topics in Mortuary Science Cr. 1
Lectures and discussions; invited speakers on current topics in the profession. Topics to be announced in Schedule of Classes. Offered Yearly.
Restriction(s): Enrollment limited to students in the BS in Mortuary Science or PBC in Forensic Investigation programs.
Repeatable for 3 Credits

MS 5990 Directed Study Cr. 3
Library and/or laboratory study of current or pending professional development; study of an existing problem, study or development of new procedures or techniques. Assigned project under the guidance of departmental/program faculty member. Offered Every Term.
Restriction(s): Enrollment limited to students in the BS in Mortuary Science or PBC in Forensic Investigation programs.

MS 5996 Professional Review Cr. 3
A comprehensive review and assessment in preparation for the National Board Examination consisting of assigned questions and in-class discussion and assessment, culminating in the Practice National Board Examination. Students receive a grade of Y at the conclusion of the course and have 30 days to take the National Board Examination after completion of the Mortuary Science professional coursework. Offered Spring/Summer.
Restriction(s): Enrollment limited to students in the BS in Mortuary Science program.
Course Material Fees: $100

MS 6010 Forensic Analysis for the Toxicologist Cr. 3
Introduction to the field for the analytical toxicologist. Design, organization, quality control, quality assurance, safety, documentation in forensic laboratory; specimen collection; handling of biological and other evidentiary specimens. Offered Fall.

MSE - MATERIALS SCIENCE AND ENGINEERING

MSE 5350 Polymer Science Cr. 3
Fundamental relationships between chemical structure and physical properties of high polymers. Basic structures, states and transitions of polymers. Polymerization reactions and processes. Molecular weight, viscous flow and mechanical properties of polymers. Offered Fall.
Prerequisites: May be taken concurrently: MAT 2150 with a minimum grade of C-
Course Material Fees: $10
Equivalent: CHE 5350

MSE 5360 Polymer Processing Cr. 3
A detailed analysis of polymer processing. Rheology of polymers, flow in tubes, calendaring, extrusion, coating and injection molding. Offered Winter.
Prerequisites: CHE 3200 with a minimum grade of C-
Course Material Fees: $10
Equivalent: CHE 5360

MSE 5385 Biocompatibility Cr. 4
Wound healing and the tissue response to foreign materials. The organization, activation, and mechanisms of the immune system. Bioactive materials and the molecular basis for surface recognition and masking. Offered Intermittently.
Prerequisite: BME 5010 with a minimum grade of C or BMS 6550 with a minimum grade of C
Equivalent: BME 5380

MSE 5650 Surface Science Cr. 3
An introduction to the science and technology of surface phenomena, including surface structure, surface energy, surface diffusion, crystal growth and selected applications of technological importance. Offered Intermittently.
Prerequisites: BE 1300 with a minimum grade of D- and CHM 5440 with a minimum grade of D-

MSE 7100 Advanced Engineering Mathematics Cr. 3
Presentation, evaluation and use of mathematical methods within the framework of engineering problems; including ordinary and partial differential equations, transforms and vector operations. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: CHE 7100

MSE 7180 Advanced Topics in Biomaterials and Tissue Biomechanics Cr. 4
Seminar format: advanced topics presented to the class; lectures by the instructor and by the participants based on literature reviews. Topics determined by student interest. Offered Every Other Fall.
Prerequisite: BME 5210 with a minimum grade of C or BME 5370 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: BME 7300, ME 7180

MSE 7300 Advanced Thermodynamics Cr. 3
Advanced presentation of the principles of thermodynamics; application to open systems, phase diagrams and chemical equilibria. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: CHE 7300

MSE 7400 Mechanical Behavior of Materials Cr. 3
Analysis of elastic and plastic deformation of single crystals and polycrystalline materials, emphasizing the relations between metallurgical microstructure and material properties. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students.

MSE 7990 Directed Study Cr. 1-6
Library investigation of an approved project in materials science and engineering. Independent study, conferences with supervisor and preparation of a comprehensive report. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.

MSE 7995 Special Topics in Materials Science II Cr. 1-4
A consideration of special subject matter in materials science. Topics to be announced in Schedule of Classes . Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 12 Credits

MSE 8996 Research Cr. 1-10
Library and laboratory investigation of an approved proposal for advanced research project. Conferences and periodic oral progress reports. Comprehensive report of entire project upon completion. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.

MSE 8997 Seminar Cr. 0.5
Offered Fall, Winter.
Restriction(s): Enrollment is limited to Graduate level students.

MSE 8999 Master's Thesis Research and Direction Cr. 1-8
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students with a class of Candidate Masters.
Repeatable for 8 Credits

MSE 9990 Pre-Doctoral Candidacy Research Cr. 1-8
Research in preparation for doctoral dissertation. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 12 Credits

MSE 9991 Doctoral Candidate Status I: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.

MSE 9992 Doctoral Candidate Status II: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: MSE 9991 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

MSE 9993 Doctoral Candidate Status III: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: MSE 9992 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

MSE 9994 Doctoral Candidate Status IV: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: MSE 9993 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

MSE 9995 Candidate Maintenance Status: Doctoral Dissertation Research and Direction Cr. 0
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $370.26
Repeatable for 0 Credits

MUA - MUSIC ENSEMBLES AND GENERAL COURSES

MUA 0804 Warrior Band Cr. 0
Warrior band performs for all home football games during fall term and basketball games during late fall and winter terms. Performances for University special events may be scheduled. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Undergraduate level students.

MUA 0900 General Lectures and Concerts Cr. 0
Lectures by visiting scholars; recitals by invited guest artists; student and faculty recitals, concerts and convocations. Offered Fall, Winter.

MUA 1700 Guitar Class Cr. 2
Fundamentals in guitar playing; techniques, hand positions, bar chords, general performance practices. Offered Fall, Winter.
Course Material Fees: $75
Repeatable for 8 Credits

MUA 1710 Piano Class Cr. 2
Rudiments of rhythmic and staff notation, beginning keyboard technique, hand positions, scales, simple compositions. Offered Fall, Winter.
Course Material Fees: $75
Repeatable for 8 Credits

MUA 1720 Voice Techniques and Pedagogy Cr. 2
Fundamentals in voice training and pedagogy for music majors. Offered Fall.
Prerequisite: MUT 1140 with a minimum grade of C and MUT 1150 with a minimum grade of C
Repeatable for 8 Credits

MUA 1730 String Techniques and Pedagogy Cr. 2
Techniques and fundamental problems in the playing and teaching of stringed instruments. Offered Fall, Winter.
Prerequisites: MUT 1140 with a minimum grade of D- or MUT 1100 with a minimum grade of D-
Restriction(s): Enrollment is limited to students with a major in Music or Music Honors.
Course Material Fees: $75
Repeatable for 6 Credits

MUA 1740 Woodwind Techniques and Pedagogy Cr. 2
Techniques and fundamental problems in the playing and teaching of woodwind instruments. Offered Fall, Winter.
Prerequisites: MUT 1140 with a minimum grade of D- or MUT 1100 with a minimum grade of D-
Restriction(s): Enrollment is limited to students with a major in Music or Music Honors.
Course Material Fees: $75
Repeatable for 6 Credits

MUA 1750 Brasswind Techniques and Pedagogy Cr. 2
Techniques and fundamental problems in the playing and teaching of brasswind instruments. Offered Fall.
Prerequisites: MUT 1140 with a minimum grade of D- or MUT 1100 with a minimum grade of D-
Restriction(s): Enrollment is limited to students with a major in Music or Music Honors.
Course Material Fees: $75
Repeatable for 6 Credits

MUA 1760 Percussion Techniques and Pedagogy Cr. 2
Techniques and fundamental problems in the playing and teaching of percussion instruments. Offered Fall.
Prerequisites: MUT 1140 with a minimum grade of D- or MUT 1100 with a minimum grade of D-
Restriction(s): Enrollment is limited to students with a major in Music or Music Honors.
Course Material Fees: $75

MUA 1795 Piano Skills I Cr. 2
Repertoire, scales, sight reading, harmonization, and simple transpositions. Offered Every Term.
Prerequisites: MUA 1710 with a minimum grade of C
Restriction(s): Enrollment is limited to students with a major in Music or Music Honors; enrollment limited to students in the BA in Fine Arts or Bachelor of Music programs.
Course Material Fees: $75

MUA 2400 Music Business I Cr. 3
Overview of the music business: emphasis on career options/ development; necessary training/experience; music in the marketplace, arts entrepreneurship, mass media, technology, digital/global implications and future trends, arts administration, industry networking, social media, internship development; professional organization, association, and industry affiliations. Offered Winter.
Prerequisite: MUT 1160 with a minimum grade of C and MUT 1170 with a minimum grade of C

MUA 2500 Music Technology Cr. 3
Introductory class on music technology. Learn to recrod, edit, and export music using a computer. Learn the basics of audio hardware setup for music, multimedia, and classes. Offered Every Term.
Course Material Fees: $75

MUA 2510 Studio Recording Techniques Cr. 2
Learn techniques of multi-track recording. Students will learn how to observe and understand equipment in a professional recording studio. Offered Fall.
Prerequisite: MUA 2500 with a minimum grade of C
Restriction(s): Enrollment is limited to students with a major in Music or Music Honors.
Course Material Fees: $75

MUA 2530 Electronic Music Synthesis Cr. 3
Learn to create sounds by manipulating electronic signals. Topics incllude fundamentals of synthesizers, theories of digital signal processing, and principle of sound design. Offered Fall.
Prerequisite: MUA 2500 with a minimum grade of C
Course Material Fees: $75

MUA 2720 Voice Class Cr. 2
Fundamentals in voice training. Correct breathing: tone placement: articulation vocalises. Offered Fall, Winter.
Equivalent: MUA 1720
Repeatable for 8 Credits

MUA 2795 Piano Skills II Cr. 2
Continuation of MUA 1795; development of basic piano skills to a higher level. Offered Winter, Spring/Summer.
Prerequisite: MUA 1795 with a minimum grade of C
Restriction(s): Enrollment is limited to students with a major in Music; enrollment limited to students in the BA in Fine Arts or Bachelor of Music programs.
Course Material Fees: $75

MUA 2800 University Bands Cr. 1
. Offered Fall, Winter.
Course Material Fees: $30
Repeatable for 99 Credits

MUA 2802 Chamber Winds Cr. 1
Offered Fall, Winter.
Course Material Fees: $25
Repeatable for 10 Credits

MUA 2804 Warrior Band Cr. 1
Warrior band performs for all home football games during fall term and basketball games during late fall and winter terms. Performances for University special events may be scheduled. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Undergraduate level students.
Course Material Fees: $30
Repeatable for 8 Credits

MUA 2806 Campus Band Cr. 0
Co-curricular concert band open to all University students. Campus Band performs one formal concert during winter term. Performances for University special events may be scheduled. Offered Winter.
Restriction(s): Enrollment is limited to Undergraduate level students.
Course Material Fees: $30

MUA 2810 University Symphony Orchestra Cr. 1
Offered Fall, Winter.
Course Material Fees: $30
Repeatable for 99 Credits

MUA 2820 Jazz Big Band Cr. 1
Offered Fall, Winter.
Course Material Fees: $30
Repeatable for 99 Credits

MUA 2822 Jazz Guitar Ensemble Cr. 1
Large ensemble for jazz guitar majors/principals. Offered Every Term.
Restriction(s): Enrollment is limited to students with a major in Music or Music Honors.
Course Material Fees: $30
Repeatable for 99 Credits

MUA 2824 Jazztet Cr. 1
Select ensemble for jazz majors. Offered Every Term.
Restriction(s): Enrollment is limited to students with a major in Music or Music Honors.
Course Material Fees: $25
Repeatable for 10 Credits

MUA 2826 Jazz Combos Cr. 1
Small ensemble for jazz majors. Offered Every Term.
Restriction(s): Enrollment is limited to students with a major in Music or Music Honors.
Course Material Fees: $25
Repeatable for 10 Credits

MUA 2830 Men's Glee Club Cr. 1
Music majors must enroll for one credit to satisfy degree requirements. Offered Fall, Winter.
Course Material Fees: $20
Repeatable for 99 Credits

MUA 2840 Choral Union Cr. 1
Offered Fall, Winter.
Course Material Fees: $30
Repeatable for 99 Credits

MUA 2850 Concert Chorale Cr. 1
Offered Fall, Winter.
Course Material Fees: $30
Repeatable for 99 Credits

MUA 2860 Opera Workshop Cr. 1
Offered Fall, Winter.
Course Material Fees: $30
Repeatable for 10 Credits

MUA 2870 Women's Chorale Cr. 1
Offered Fall, Winter.
Course Material Fees: $25
Repeatable for 99 Credits

MUA 2880 Chamber Music and Special Ensembles Cr. 1
All forms including: flute ensemble, percussion ensemble, string trios and quartets, small wind or brass ensembles, and mixed ensembles. Offered Fall, Winter.
Restriction(s): Enrollment is limited to students with a major in Music.
Course Material Fees: $25
Repeatable for 10 Credits

MUA 2891 Electronic Music Ensemble Cr. 1
Learn to play electronic instruments in an ensemble. Current and vintage electronic instruments as well as approved traditional instruments are being used to perform contemporary electronic music repertoire. Offered Fall, Winter.
Prerequisite: MUA 2500 with a minimum grade of C or MUA 2530 with a minimum grade of C
Course Material Fees: $75
Repeatable for 2 Credits

MUA 3510 Mixing and Mastering Cr. 2
Students will learn project management skills through proper session documentation and billing. Topics include surround sound mixing, live sound, and large ensemble production techniques. Offered Winter.
Prerequisite: MUA 2510 with a minimum grade of C
Course Material Fees: $75

MUA 3530 Sound Design Cr. 3
Covers the basics of audio programming using text-based audio applications. Students will learn to create their own plugins and software synthesizers. Offered Winter.
Prerequisite: MUA 2530 with a minimum grade of C
Course Material Fees: $75

MUA 3550 Advanced Studio Techniques Cr. 2
Examines project management skills through proper session documentation and billing. Topics include surround sound mixing, live sound, and large ensemble production techniques. Offered Fall.
Prerequisite: MUA 3510 with a minimum grade of C
Course Material Fees: $75

MUA 3670 Conducting Techniques I Cr. 2
Rudiments of conducting; special attention to baton techniques. Offered Fall.
Prerequisite: MUT 2160 with a minimum grade of C and MUT 2170 with a minimum grade of C

MUA 3680 Conducting Techniques II Cr. 2
Continuation of MUA 3670. Score reading and rehearsal techniques. Offered Winter.
Prerequisite: MUA 3670 with a minimum grade of C

MUA 3795 Advanced Piano Skills Cr. 2
Continuation of MUA 2795; emphasis on jazz skills and styles. Offered Fall.
Prerequisite: MUA 2795 with a minimum grade of C
Restriction(s): Enrollment limited to students in the Bachelor of Music program.
Course Material Fees: $75

MUA 3990 Directed Study Cr. 1-3
Individualized research and work in a particular aspect of music under the supervision of a faculty member. Offered Fall, Winter.
Restriction(s): Enrollment limited to students with a class of Junior or Senior; enrollment is limited to students with a major, minor, or concentration in Music or Music Honors.
Repeatable for 6 Credits

MUA 4010 Audio Electronics Cr. 3
Examines practical electronics for music production and electronic music composition. Topics include basic electronics, building and repairing audio equipments, and building analog and digital signal processors and synthesizers. Offered Fall.
Prerequisites: MAT 1050 with a minimum grade of C and MUA 3510 with a minimum grade of C or MUA 3530 with a minimum grade of C

MUA 4020 Theories of Electronic Music Cr. 3
Covers advanced digital theories of electronic music synthesis and production. Topics include digital signal processing, advanced audio programming, interactive audio, and audio synthesis. Offered Fall.
Prerequisite: MUA 3510 with a minimum grade of C or MUA 3530 with a minimum grade of C

MUA 4030 Sound Design for Visual Media Cr. 3
Covers sound design and audio treatment for visual media. Topics include research and creation of sound for film, web, sound libraries, instructional technology, sound installations, and non-linear sound design (video games). Offered Winter.
Prerequisite: MUA 3510 with a minimum grade of C or MUA 3530 with a minimum grade of C

MUA 4040 Electroacoustic Music Cr. 3
Introduces techniques, aesthetics, and composition of electroacoustic music. Topics include analytical techniques for electronic music, creative usage of audio hardward and software, and advanced electroacoustic music performance. Offered Fall.
Prerequisite: MUA 3510 with a minimum grade of C or MUA 3530 with a minimum grade of C

MUA 4650 Directed Study: Internships Cr. 1-3
Directly supervised professional experience in the music and creative arts industries and related fields (marketing, music technology, recording, publicity, public relations). Offered Every Term.
Restriction(s): Enrollment is limited to students with a major in Music; enrollment limited to students in the Bachelor of Music program.
Repeatable for 6 Credits

MUA 4950 Music Technology Senior Project Cr. 1
Students will create a large-scale, long-term project that demonstrates the skills learned in the music technology classes. Offered Winter.
Prerequisite: MUA 4650 (may be taken concurrently) with a minimum grade of C

MUA 4990 BA Project Cr. 2
Directed study leading to completion of the B.A. project in music. Offered Fall, Winter.
Restriction(s): Enrollment limited to students with a class of Senior; enrollment is limited to students with a major, minor, or concentration in Music or Music Honors; enrollment limited to students in a Bachelor of Arts degree.
Equivalent: MUH 4990, MUT 4990

MUA 5600 Music Business II Cr. 3
Continuation of MUA 2400. Basic aspects of the music business. Topic coverage will include legal issues, copyright and fair use, songwriting, publishing, licensing, artist management, the recording industry, recording contracts, unions and guilds, use of agents, attorneys, and managers, and an introduction to various forms of business entities and related tax issues in the music business. Offered Fall.
Prerequisite: MUA 2400 with a minimum grade of C
Restriction(s): Enrollment is limited to students with a major in Music or Music Honors.

MUA 5690 Stage Band Direction Cr. 1
Techniques of big-band direction in a jazz medium. Offered for undergraduate credit only. Offered Fall, Winter.
Prerequisite: MUA 3670 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students.
Repeatable for 3 Credits

MUA 5700 Music Business III Cr. 3
Third in the four-course music business course sequence. Intensive individual research and study of specific areas of the music business and music industry, on local, national and global levels. Artist management, nonprofit organizations, arts advocacy/citizenship, and arts entrepreneurship. Other areas of research/investigation may include live concert production/touring, film music, music video, radio/television, marketing/communications, music business/industry associations, social media and technological/digital implications. Comprehensive individual and collaborative team research projects, music business projects, and internship/career networking development. Offered for undergraduate credit only. Offered Winter.
Prerequisite: MUA 5600 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students.

MUA 5730 Harpsichord Class Cr. 2
Offered Fall, Winter.
Restriction(s): Enrollment is limited to students with a major in Music or Music Honors.
Repeatable for 8 Credits

MUA 5800 Music Business IV Cr. 3
Final course in the music business sequence. Individual study of specific areas of music business/management and the music industry at the local, national, and international levels. Areas may include: live concert production/touring, film music and music video, marketing/communication, music business/industry associations, and technology/digital implications. Comprehensive research project required. Offered for undergraduate credit only. Offered Fall.
Prerequisite: MUA 5700 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students.
Course Material Fees: $50

MUA 7730 Advanced Diction Cr. 3
In-depth study of diction for singers. Offered Intermittently.
Prerequisite: MUH 5370 with a minimum grade of C and MUH 5380 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 6 Credits

MUA 7800 University Bands Cr. 1
Offered Fall, Winter.
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $30
Repeatable for 3 Credits

MUA 7802 Chamber Winds Cr. 1
Offered Fall, Winter.
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $25

MUA 7810 University Symphony Orchestra Cr. 1
Offered Fall, Winter.
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $30
Repeatable for 3 Credits

MUA 7820 Jazz Big Band Cr. 1
Offered Fall, Winter.
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $30
Repeatable for 3 Credits

MUA 7822 Jazz Guitar Ensemble Cr. 1
Large ensemble for jazz guitar majors/principals. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Music.
Course Material Fees: $30
Repeatable for 2 Credits

MUA 7824 Jazztet Cr. 1
Select ensemble for jazz majors. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Music.
Course Material Fees: $25
Repeatable for 2 Credits

MUA 7826 Jazz Combos Cr. 1
Small ensemble for jazz majors. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Music.
Course Material Fees: $25
Repeatable for 2 Credits

MUA 7830 Men's Glee Club Cr. 1
. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $20
Repeatable for 4 Credits

MUA 7840 Choral Union Cr. 1
Offered Fall, Winter.
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $30
Repeatable for 3 Credits

MUA 7850 Concert Chorale Cr. 1
Offered Fall, Winter.
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $30
Repeatable for 3 Credits

MUA 7860 Opera Workshop Cr. 1
Offered Fall, Winter.
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $30
Repeatable for 4 Credits

MUA 7870 Women's Chorale Cr. 1
Offered Fall, Winter.
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $25
Repeatable for 4 Credits

MUA 7875 Orchestral Repertory Cr. 1
Individual and small group instruction in orchestral repertory, audition preparation, and mock auditions. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the GC in Orchestral Studies program.
Course Material Fees: $20
Repeatable for 3 Credits

MUA 7880 Chamber Music and Special Ensembles Cr. 1
All forms including piano and string trios and quartets, and small wind groups. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $25
Repeatable for 3 Credits

MUH - MUSIC HISTORY

MUH 1340 Music Appreciation: World Music Cr. 3
Satisfies General Education Requirement: Cultural Inquiry, Global Learning Inquiry, Visual Performing Arts
Introduction to the musical styles of Africa, Asia, South America, and the Middle East. Offered Every Term.

MUH 1345 Music Cultures Cr. 3
Satisfies General Education Requirement: Cultural Inquiry, Global Learning Inquiry, Visual Performing Arts
Indigenous musics and cultures of Asia, Africa and the Americas; emphasis on features of the musics that have influenced Western art musics. Offered Winter.
Restriction(s): Enrollment is limited to students with a major in Music or Music Honors; enrollment limited to students in the BA in Fine Arts or Bachelor of Music programs.

MUH 1350 History of American Popular Music Cr. 3
Satisfies General Education Requirement: Cultural Inquiry, Diversity Equity Incl Inquiry, Visual Performing Arts
History of American popular music from the early nineteenth century to the present. Political, economic, social, and cultural influences on music. Offered Winter.

MUH 1351 History and Styles of Rock and Roll Cr. 3
Satisfies General Education Requirement: Cultural Inquiry, Diversity Equity Incl Inquiry, Visual Performing Arts
Exploration of American ""mainstream"" and ""subcultural"" popular music; focus on art, technology, business, cultural contexts. Offered Yearly.

MUH 1370 Music Appreciation: Beginnings to the Present Cr. 3
Satisfies General Education Requirement: Cultural Inquiry, Global Learning Inquiry, Visual Performing Arts
Survey of Western music from its beginnings to the present. Developing musical understanding and critical listening skills by focusing on major composers and styles, and by concentrating on social, political and cultural influences. Offered Every Term.

MUH 3310 Music History and Literature I Cr. 3
Survey of the most important developments in western music history from antiquity to 1700. Concentration on major composers and styles, as well as on significant historical, philosophical, artistic and cultural influences. Offered Fall.
Prerequisite: MUT 1160 with a minimum grade of C and MUH 1345 with a minimum grade of C
Restriction(s): Enrollment is limited to students with a major in Music or Music Honors; enrollment limited to students in a Bachelor of Arts or Bachelor of Music degrees.

MUH 3320 Music History and Literature II Cr. 3
Survey of important developments in western music history from 1700 to 1900. Concentration on major composers and styles, as well as on significant historical, philosophical, artistic and cultural influences. Offered Winter.
Prerequisite: MUH 3310 with a minimum grade of C

MUH 3330 Music History and Literature III Cr. 3
Satisfies General Education Requirement: Writing Intensive Competency
Survey of important developments in western music history from 1900 to the present time. Concentration on major composers and styles, as well as on significant historical, philosophical, artistic and cultural influences. Offered Fall.
Prerequisite: MUH 3320 with a minimum grade of C

MUH 3360 Jazz History Cr. 3
Satisfies General Education Requirement: Diversity Equity Incl Inquiry
Survey of major developments in jazz from its beginnings to the present. Offered Fall.
Restriction(s): Enrollment is limited to Undergraduate level students.

MUH 3990 Directed Study Cr. 1-3
Individualized research and work in music history or literature under the supervision of a faculty member. Offered Fall, Winter.
Restriction(s): Enrollment limited to students with a class of Junior or Senior; enrollment is limited to students with a major, minor, or concentration in Music or Music Honors.
Repeatable for 6 Credits

MUH 4990 BA Project Cr. 2
Directed study leading to completion of the B.A. project in music. Offered Fall, Winter.
Restriction(s): Enrollment limited to students with a class of Senior; enrollment is limited to students with a major in Music or Music Honors; enrollment limited to students in a Bachelor of Arts degree.
Equivalent: MUA 4990, MUT 4990

MUH 5300 Music Research Cr. 3
Music bibliography and research techniques. Offered for graduate credit only. Offered Fall.
Restriction(s): Enrollment is limited to students with a major in Music or Music Honors.

MUH 5315 Special Topics in Music History Cr. 3
In-depth study of such topics as the historical development of opera and oratorio, symphonic or chamber music styles, or specialized study of individual composers. Course may be repeated when topics change. Offered for undergraduate credit only. Offered Intermittently.
Restriction(s): Enrollment is limited to Undergraduate level students.
Repeatable for 6 Credits

MUH 5340 Survey of World Music Cr. 3
Satisfies General Education Requirement: Cultural Inquiry, Global Learning Inquiry
Musical expressions of five or six non-European cultures en route to a better understanding of the peoples themselves. Attention given to biases, culturally-determined learning patterns, and aesthetics. No credit for graduate degrees in music. Offered Fall, Winter.

MUH 5350 Performance Literature and Pedagogy Cr. 3
Survey of solo and chamber repertoire from the Renaissance to the present, for students' major performance areas. No credit for graduate degrees in music. Offered Yearly.

MUH 5360 Jazz History Cr. 3
Survey of major developments in jazz from its beginnings to the present. Offered for graduate credit only. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.

MUH 5370 Diction and Song Literature I Cr. 3
Singers' diction in Italian, Latin, French and Spanish; methodologies, solo and chamber repertoire in these languages. No credit for M.Mus. degree in vocal performance. Offered Every Other Year.
Restriction(s): Enrollment is limited to students with a major in Music, Music Honors, Theatre or Theatre Honors.

MUH 5380 Diction and Song Literature II Cr. 3
Singers' diction in German, Hebrew, Russian and English; methodologies, solo and chamber repertoire in these languages. No credit for M.Mus. degree in vocal performance. Offered Every Other Year.
Prerequisite: MUH 5370 with a minimum grade of C
Restriction(s): Enrollment is limited to students with a major in Music, Music Honors, Theatre or Theatre Honors.

MUH 5993 Writing Intensive Course in Music Cr. 0
Satisfies General Education Requirement: Writing Intensive Competency Disciplinary writing assignments under the direction of a faculty member. Satisfies the University General Education Writing Intensive Course in the Major requirement. Required for majors. Offered Fall, Winter.
Prerequisites: AFS 2390 with a minimum grade of C or ENG 2390 with a minimum grade of C or ENG 3010 with a minimum grade of C or ENG 3020 with a minimum grade of C or ENG 3050 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students.

MUH 7315 Special Topics in Music History Cr. 3
In-depth study of such topics as the historical development of opera and oratorio, symphonic or chamber music styles, or specialized study of individual composers. Course may be repeated when topics change. Offered Intermittently.
Prerequisite: MUH 5300 with a minimum grade of B-
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Music.
Repeatable for 6 Credits

MUH 7320 Studies in Renaissance Music Cr. 3
Fifteenth and sixteenth centuries, from Burgundian School through Palestrina. Special reports; research projects. Offered Every Other Year.
Prerequisite: MUH 5300 with a minimum grade of B-
Restriction(s): Enrollment is limited to Graduate level students.

MUH 7330 Studies in Baroque Music Cr. 3
From Monteverdi to 1750. Special reports; research projects. Offered Every Other Year.
Prerequisite: MUH 5300 with a minimum grade of B-
Restriction(s): Enrollment is limited to Graduate level students.

MUH 7340 Studies in Classical Music Cr. 3
From 1750 to 1825. Special reports; research projects. Offered Every Other Year.
Prerequisite: MUH 5300 with a minimum grade of B-
Restriction(s): Enrollment is limited to Graduate level students.

MUH 7350 Studies in Romantic Music Cr. 3
Nineteenth century. Special reports and research projects. Offered Every Other Year.
Prerequisite: MUH 5300 with a minimum grade of B-
Restriction(s): Enrollment is limited to Graduate level students.

MUH 7360 Studies in Twentieth Century Music Cr. 3
Special reports and research projects. Offered Every Other Year.
Prerequisite: MUH 5300 with a minimum grade of B-
Restriction(s): Enrollment is limited to Graduate level students.

MUH 7370 Studies in Advanced Literature for Conductors Cr. 3
Literature for various instrumental and choral ensembles from the Renaissance to the present; emphasis on stylistic characteristics, rehearsal techniques, and authenticity of performance. Offered Yearly.
Prerequisite: MUH 5300 with a minimum grade of B-
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Master of Music program.

MUH 7390 Studies in Jazz History Cr. 3
Continuation of MUH 5360. Offered Yearly.
Prerequisite: MUH 5360 with a minimum grade of C and MUH 5300 with a minimum grade of B-
Restriction(s): Enrollment is limited to Graduate level students.

MUH 7991 Directed Study in Music History Cr. 1-3
Research investigations in historical musicology. Offered Every Term.
Prerequisite: MUH 5300 with a minimum grade of B-
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 6 Credits

MUH 8999 Master's Thesis Direction Cr. 1-8
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students with a class of Candidate Masters.
Repeatable for 8 Credits

MUP - MUSIC PRIVATE INSTRUCTION

MUP 1201 Organ: Principal Instruction Cr. 1
Offered Fall, Winter.
Course Material Fees: $500
Repeatable for 2 Credits

MUP 1202 Organ: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUP 1201 with a minimum grade of C
Course Material Fees: $500
Repeatable for 2 Credits

MUP 1203 Organ: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUP 1202 with a minimum grade of C
Course Material Fees: $500
Repeatable for 2 Credits

MUP 1204 Organ: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUP 1203 with a minimum grade of C
Course Material Fees: $500
Repeatable for 2 Credits

MUP 1205 Organ: Secondary Instruction Cr. 1
Offered Fall, Winter.
Course Material Fees: $300
Repeatable for 4 Credits

MUP 1211 Piano: Principal Instruction Cr. 1
Offered Fall, Winter.
Course Material Fees: $500
Repeatable for 2 Credits

MUP 1212 Piano: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUP 1211 with a minimum grade of C
Course Material Fees: $500
Repeatable for 2 Credits

MUP 1213 Piano: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUP 1212 with a minimum grade of C
Course Material Fees: $500
Repeatable for 2 Credits

MUP 1214 Piano: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUP 1213 with a minimum grade of C
Course Material Fees: $500
Repeatable for 2 Credits

MUP 1215 Piano: Secondary Instruction Cr. 1
Offered Fall, Winter.
Course Material Fees: $300
Repeatable for 4 Credits

MUP 1221 Voice: Principal Instruction Cr. 1
Offered Fall, Winter.
Course Material Fees: $500
Repeatable for 2 Credits

MUP 1222 Voice: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUP 1221 with a minimum grade of C
Course Material Fees: $500
Repeatable for 2 Credits

MUP 1223 Voice: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUP 1222 with a minimum grade of C
Course Material Fees: $500
Repeatable for 2 Credits

MUP 1224 Voice: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUP 1223 with a minimum grade of C
Course Material Fees: $500
Repeatable for 2 Credits

MUP 1225 Voice: Secondary Instruction Cr. 1
Offered Fall, Winter.
Course Material Fees: $300
Repeatable for 4 Credits

MUP 1231 Strings: Principal Instruction Cr. 1
Offered Fall, Winter.
Course Material Fees: $500
Repeatable for 2 Credits

MUP 1232 Strings: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUP 1231 with a minimum grade of C
Course Material Fees: $500
Repeatable for 2 Credits

MUP 1233 Strings: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUP 1232 with a minimum grade of C
Course Material Fees: $500
Repeatable for 2 Credits

MUP 1234 Strings: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUP 1233 with a minimum grade of C
Course Material Fees: $500
Repeatable for 2 Credits

MUP 1235 Strings: Secondary Instruction Cr. 1
Offered Fall, Winter.
Course Material Fees: $300
Repeatable for 4 Credits

MUP 1241 Woodwinds: Principal Instruction Cr. 1
Offered Fall, Winter.
Course Material Fees: $500
Repeatable for 2 Credits

MUP 1242 Woodwinds: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUP 1241 with a minimum grade of C
Course Material Fees: $500
Repeatable for 2 Credits

MUP 1243 Woodwinds: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUP 1242 with a minimum grade of C
Course Material Fees: $500
Repeatable for 2 Credits

MUP 1244 Woodwinds: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUP 1243 with a minimum grade of C
Course Material Fees: $500
Repeatable for 2 Credits

MUP 1245 Woodwinds: Secondary Instruction Cr. 1
Offered Fall, Winter.
Course Material Fees: $300
Repeatable for 4 Credits

MUP 1251 Brasswinds: Principal Instruction Cr. 1
Offered Fall, Winter.
Course Material Fees: $500
Repeatable for 2 Credits

MUP 1252 Brasswinds: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUP 1251 with a minimum grade of C
Course Material Fees: $500
Repeatable for 2 Credits

MUP 1253 Brasswinds: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUP 1252 with a minimum grade of C
Course Material Fees: $500
Repeatable for 2 Credits

MUP 1254 Brasswinds: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUP 1253 with a minimum grade of C
Course Material Fees: $500
Repeatable for 2 Credits

MUP 1255 Brasswinds: Secondary Instruction Cr. 1
Offered Fall, Winter.
Course Material Fees: $300
Repeatable for 4 Credits

MUP 1261 Percussion: Principal Instruction Cr. 1
Offered Fall, Winter.
Course Material Fees: $500
Repeatable for 2 Credits

MUP 1262 Percussion: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUP 1261 with a minimum grade of C
Course Material Fees: $500
Repeatable for 2 Credits

MUP 1263 Percussion: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUP 1262 with a minimum grade of C
Course Material Fees: $500
Repeatable for 2 Credits

MUP 1264 Percussion: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUP 1263 with a minimum grade of C
Course Material Fees: $500
Repeatable for 2 Credits

MUP 1265 Percussion: Secondary Instruction Cr. 1
Offered Fall, Winter.
Course Material Fees: $300
Repeatable for 4 Credits

MUP 1271 Harp: Principal Instruction Cr. 1
Offered Fall, Winter.
Course Material Fees: $500
Repeatable for 2 Credits

MUP 1272 Harp: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUP 1271 with a minimum grade of C
Course Material Fees: $500
Repeatable for 2 Credits

MUP 1273 Harp: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUP 1272 with a minimum grade of C
Course Material Fees: $500
Repeatable for 2 Credits

MUP 1274 Harp: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUP 1273 with a minimum grade of C
Course Material Fees: $500
Repeatable for 2 Credits

MUP 1275 Harp: Secondary Instruction Cr. 1
Offered Fall, Winter.
Course Material Fees: $300
Repeatable for 4 Credits

MUP 1281 Classic Guitar: Principal Instruction Cr. 1
Offered Fall, Winter.
Course Material Fees: $500
Repeatable for 2 Credits

MUP 1282 Classic Guitar: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUP 1281 with a minimum grade of C
Course Material Fees: $500
Repeatable for 2 Credits

MUP 1283 Classic Guitar: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUP 1282 with a minimum grade of C
Course Material Fees: $500
Repeatable for 2 Credits

MUP 1284 Classic Guitar: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUP 1283 with a minimum grade of C
Course Material Fees: $500
Repeatable for 2 Credits

MUP 1285 Classic Guitar: Secondary Instruction Cr. 1
Offered Fall, Winter.
Course Material Fees: $300
Repeatable for 4 Credits

MUP 1321 Jazz Piano: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUA 2820 (may be taken concurrently) with a minimum grade of C or MUA 2822 (may be taken concurrently) with a minimum grade of C
Course Material Fees: $500
Repeatable for 2 Credits

MUP 1322 Jazz Piano: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUP 1321 with a minimum grade of C and (MUA 2820 (may be taken concurrently) with a minimum grade of C or MUA 2822 (may be taken concurrently) with a minimum grade of C)
Course Material Fees: $500
Repeatable for 2 Credits

MUP 1323 Jazz Piano: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUP 1322 with a minimum grade of C and (MUA 2820 (may be taken concurrently) with a minimum grade of C or MUA 2822 (may be taken concurrently) with a minimum grade of C)
Course Material Fees: $500
Repeatable for 2 Credits

MUP 1324 Jazz Piano: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUP 1323 with a minimum grade of C and (MUA 2820 (may be taken concurrently) with a minimum grade of C or MUA 2822 (may be taken concurrently) with a minimum grade of C)
Course Material Fees: $500
Repeatable for 2 Credits

MUP 1325 Jazz Piano: Secondary Instruction Cr. 1
Offered Fall, Winter.
Course Material Fees: $300
Repeatable for 4 Credits

MUP 1331 Jazz Strings: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUA 2820 (may be taken concurrently) with a minimum grade of C or MUA 2822 (may be taken concurrently) with a minimum grade of C
Course Material Fees: $500
Repeatable for 2 Credits

MUP 1332 Jazz Strings: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUP 1331 with a minimum grade of C and (MUA 2820 (may be taken concurrently) with a minimum grade of C or MUA 2822 (may be taken concurrently) with a minimum grade of C)
Course Material Fees: $500
Repeatable for 2 Credits

MUP 1333 Jazz Strings: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUP 1332 with a minimum grade of C and (MUA 2820 (may be taken concurrently) with a minimum grade of C or MUA 2822 (may be taken concurrently) with a minimum grade of C)
Course Material Fees: $500
Repeatable for 2 Credits

MUP 1334 Jazz Strings: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUP 1333 with a minimum grade of C and (MUA 2820 (may be taken concurrently) with a minimum grade of C or MUA 2822 (may be taken concurrently) with a minimum grade of C)
Course Material Fees: $500
Repeatable for 2 Credits

MUP 1335 Jazz Strings: Secondary Instruction Cr. 1
Offered Fall, Winter.
Course Material Fees: $300
Repeatable for 4 Credits

MUP 1341 Jazz Woodwinds: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUA 2820 (may be taken concurrently) with a minimum grade of C or MUA 2822 (may be taken concurrently) with a minimum grade of C
Course Material Fees: $500
Repeatable for 2 Credits

MUP 1342 Jazz Woodwinds: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUP 1341 with a minimum grade of C and (MUA 2820 (may be taken concurrently) with a minimum grade of C or MUA 2822 (may be taken concurrently) with a minimum grade of C)
Course Material Fees: $500
Repeatable for 2 Credits

MUP 1343 Jazz Woodwinds: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUP 1342 with a minimum grade of C and (MUA 2820 (may be taken concurrently) with a minimum grade of C or MUA 2822 (may be taken concurrently) with a minimum grade of C)
Course Material Fees: $500
Repeatable for 2 Credits

MUP 1344 Jazz Woodwinds: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUP 1343 with a minimum grade of C and (MUA 2820 (may be taken concurrently) with a minimum grade of C or MUA 2822 (may be taken concurrently) with a minimum grade of C)
Course Material Fees: $500
Repeatable for 2 Credits

MUP 1345 Jazz Woodwinds: Secondary Instruction Cr. 1
Offered Fall, Winter.
Course Material Fees: $300
Repeatable for 4 Credits

MUP 1351 Jazz Brasswinds: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUA 2820 (may be taken concurrently) with a minimum grade of C or MUA 2822 (may be taken concurrently) with a minimum grade of C
Course Material Fees: $500
Repeatable for 2 Credits

MUP 1352 Jazz Brasswinds: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUP 1351 with a minimum grade of C and (MUA 2820 (may be taken concurrently) with a minimum grade of C or MUA 2822 (may be taken concurrently) with a minimum grade of C)
Course Material Fees: $500
Repeatable for 2 Credits

MUP 1353 Jazz Brasswinds: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUP 1352 with a minimum grade of C and (MUA 2820 (may be taken concurrently) with a minimum grade of C or MUA 2822 (may be taken concurrently) with a minimum grade of C)
Course Material Fees: $500
Repeatable for 2 Credits

MUP 1354 Jazz Brasswinds: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUP 1353 with a minimum grade of C and (MUA 2820 (may be taken concurrently) with a minimum grade of C or MUA 2822 (may be taken concurrently) with a minimum grade of C)
Course Material Fees: $500
Repeatable for 2 Credits

MUP 1355 Jazz Brasswinds: Secondary Instruction Cr. 1
Offered Fall, Winter.
Course Material Fees: $300
Repeatable for 4 Credits

MUP 1361 Jazz Percussion: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUA 2820 (may be taken concurrently) with a minimum grade of C or MUA 2822 (may be taken concurrently) with a minimum grade of C
Course Material Fees: $500
Repeatable for 2 Credits

MUP 1362 Jazz Percussion: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUP 1361 with a minimum grade of C and (MUA 2820 (may be taken concurrently) with a minimum grade of C or MUA 2822 (may be taken concurrently) with a minimum grade of C)
Course Material Fees: $500
Repeatable for 2 Credits

MUP 1363 Jazz Percussion: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUP 1362 with a minimum grade of C and (MUA 2820 (may be taken concurrently) with a minimum grade of C or MUA 2822 (may be taken concurrently) with a minimum grade of C)
Course Material Fees: $500
Repeatable for 2 Credits

MUP 1364 Jazz Percussion: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUP 1363 with a minimum grade of C and (MUA 2820 (may be taken concurrently) with a minimum grade of C or MUA 2822 (may be taken concurrently) with a minimum grade of C)
Course Material Fees: $500
Repeatable for 2 Credits

MUP 1365 Jazz Percussion: Secondary Instruction Cr. 1
Offered Fall, Winter.
Course Material Fees: $300
Repeatable for 4 Credits

MUP 1371 Jazz Guitar: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUA 2820 (may be taken concurrently) with a minimum grade of C or MUA 2822 (may be taken concurrently) with a minimum grade of C
Course Material Fees: $500
Repeatable for 2 Credits

MUP 1372 Jazz Guitar: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUP 1371 with a minimum grade of C and (MUA 2820 (may be taken concurrently) with a minimum grade of C or MUA 2822 (may be taken concurrently) with a minimum grade of C)
Course Material Fees: $500
Repeatable for 2 Credits

MUP 1373 Jazz Guitar: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUP 1372 with a minimum grade of C and (MUA 2820 (may be taken concurrently) with a minimum grade of C or MUA 2822 (may be taken concurrently) with a minimum grade of C)
Course Material Fees: $500
Repeatable for 2 Credits

MUP 1374 Jazz Guitar: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUP 1373 with a minimum grade of C and (MUA 2820 (may be taken concurrently) with a minimum grade of C or MUA 2822 (may be taken concurrently) with a minimum grade of C)
Course Material Fees: $500
Repeatable for 2 Credits

MUP 1375 Jazz Guitar: Secondary Instruction Cr. 1
Offered Fall, Winter.
Course Material Fees: $300
Repeatable for 4 Credits

MUP 2201 Organ: Major Instruction Cr. 3
Offered Fall, Winter.
Course Material Fees: $600
Repeatable for 6 Credits

MUP 2202 Organ: Major Instruction Cr. 3
Offered Fall, Winter.
Prerequisite: MUP 2201 with a minimum grade of C
Course Material Fees: $600
Repeatable for 6 Credits

MUP 2203 Organ: Major Instruction Cr. 3
Offered Fall, Winter.
Prerequisite: MUP 2202 with a minimum grade of C
Course Material Fees: $600
Repeatable for 6 Credits

MUP 2204 Organ: Major Instruction Cr. 3
Offered Fall, Winter.
Prerequisite: MUP 2203 with a minimum grade of C
Course Material Fees: $600
Repeatable for 6 Credits

MUP 2211 Piano: Major Instruction Cr. 3
Offered Fall, Winter.
Course Material Fees: $600
Repeatable for 6 Credits

MUP 2212 Piano: Major Instruction Cr. 3
Offered Fall, Winter.
Prerequisite: MUP 2211 with a minimum grade of C
Course Material Fees: $600
Repeatable for 6 Credits

MUP 2213 Piano: Major Instruction Cr. 3
Offered Fall, Winter.
Prerequisite: MUP 2212 with a minimum grade of C
Course Material Fees: $600
Repeatable for 6 Credits

MUP 2214 Piano: Major Instruction Cr. 3
Offered Fall, Winter.
Prerequisite: MUP 2213 with a minimum grade of C
Course Material Fees: $600
Repeatable for 6 Credits

MUP 2221 Voice: Major Instruction Cr. 3
Offered Fall, Winter.
Course Material Fees: $600
Repeatable for 6 Credits

MUP 2222 Voice: Major Instruction Cr. 3
Offered Fall, Winter.
Prerequisite: MUP 2221 with a minimum grade of C
Course Material Fees: $600
Repeatable for 6 Credits

MUP 2223 Voice: Major Instruction Cr. 3
Offered Fall, Winter.
Prerequisite: MUP 2222 with a minimum grade of C
Course Material Fees: $600
Repeatable for 6 Credits

MUP 2224 Voice: Major Instruction Cr. 3
Offered Fall, Winter.
Prerequisite: MUP 2223 with a minimum grade of C
Course Material Fees: $600
Repeatable for 6 Credits

MUP 2231 Strings: Major Instruction Cr. 3
Offered Fall, Winter.
Course Material Fees: $600
Repeatable for 6 Credits

MUP 2232 Strings: Major Instruction Cr. 3
Offered Fall, Winter.
Prerequisite: MUP 2231 with a minimum grade of C
Course Material Fees: $600
Repeatable for 6 Credits

MUP 2233 Strings: Major Instruction Cr. 3
Offered Fall, Winter.
Prerequisite: MUP 2232 with a minimum grade of C
Course Material Fees: $600
Repeatable for 6 Credits

MUP 2234 Strings: Major Instruction Cr. 3
Offered Fall, Winter.
Prerequisite: MUP 2233 with a minimum grade of C
Course Material Fees: $600
Repeatable for 6 Credits

MUP 2241 Woodwinds: Major Instruction Cr. 3
Offered Fall, Winter.
Course Material Fees: $600
Repeatable for 6 Credits

MUP 2242 Woodwinds: Major Instruction Cr. 3
Offered Fall, Winter.
Prerequisite: MUP 2241 with a minimum grade of C
Course Material Fees: $600
Repeatable for 6 Credits

MUP 2243 Woodwinds: Major Instruction Cr. 3
Offered Fall, Winter.
Prerequisite: MUP 2242 with a minimum grade of C
Course Material Fees: $600
Repeatable for 6 Credits

MUP 2244 Woodwinds: Major Instruction Cr. 3
Offered Fall, Winter.
Prerequisite: MUP 2243 with a minimum grade of C
Course Material Fees: $600
Repeatable for 6 Credits

MUP 2251 Brasswinds: Major Instruction Cr. 3
Offered Fall, Winter.
Course Material Fees: $600
Repeatable for 6 Credits

MUP 2252 Brasswinds: Major Instruction Cr. 3
Offered Fall, Winter.
Prerequisite: MUP 2251 with a minimum grade of C
Course Material Fees: $600
Repeatable for 6 Credits

MUP 2253 Brasswinds: Major Instruction Cr. 3
Offered Fall, Winter.
Prerequisite: MUP 2252 with a minimum grade of C
Course Material Fees: $600
Repeatable for 6 Credits

MUP 2254 Brasswinds: Major Instruction Cr. 3
Offered Fall, Winter.
Prerequisite: MUP 2253 with a minimum grade of C
Course Material Fees: $600
Repeatable for 6 Credits

MUP 2261 Percussion: Major Instruction Cr. 3
Offered Fall, Winter.
Course Material Fees: $600
Repeatable for 6 Credits

MUP 2262 Percussion: Major Instruction Cr. 3
Offered Fall, Winter.
Prerequisite: MUP 2261 with a minimum grade of C
Course Material Fees: $600
Repeatable for 6 Credits

MUP 2263 Percussion: Major Instruction Cr. 3
Offered Fall, Winter.
Prerequisite: MUP 2262 with a minimum grade of C
Course Material Fees: $600
Repeatable for 6 Credits

MUP 2264 Percussion: Major Instruction Cr. 3
Offered Fall, Winter.
Prerequisite: MUP 2263 with a minimum grade of C
Course Material Fees: $600
Repeatable for 6 Credits

MUP 2271 Harp: Major Instruction Cr. 3
Offered Fall, Winter.
Course Material Fees: $600
Repeatable for 6 Credits

MUP 2272 Harp: Major Instruction Cr. 3
Offered Fall, Winter.
Prerequisite: MUP 2271 with a minimum grade of C
Course Material Fees: $600
Repeatable for 6 Credits

MUP 2273 Harp: Major Instruction Cr. 3
Offered Fall, Winter.
Prerequisite: MUP 2272 with a minimum grade of C
Course Material Fees: $600
Repeatable for 6 Credits

MUP 2274 Harp: Major Instruction Cr. 3
Offered Fall, Winter.
Prerequisite: MUP 2273 with a minimum grade of C
Course Material Fees: $600
Repeatable for 6 Credits

MUP 2281 Classic Guitar: Major Instruction Cr. 3
Offered Fall, Winter.
Course Material Fees: $600
Repeatable for 6 Credits

MUP 2282 Classic Guitar: Major Instruction Cr. 3
Offered Fall, Winter.
Prerequisite: MUP 2281 with a minimum grade of C
Course Material Fees: $600
Repeatable for 6 Credits

MUP 2283 Classic Guitar: Major Instruction Cr. 3
Offered Fall, Winter.
Prerequisite: MUP 2282 with a minimum grade of C
Course Material Fees: $600
Repeatable for 6 Credits

MUP 2284 Classic Guitar: Major Instruction Cr. 3
Offered Fall, Winter.
Prerequisite: MUP 2283 with a minimum grade of C
Course Material Fees: $600
Repeatable for 6 Credits

MUP 3201 Organ: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUP 1204 with a minimum grade of C
Course Material Fees: $500
Repeatable for 2 Credits

MUP 3202 Organ: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUP 3201 with a minimum grade of C
Course Material Fees: $500
Repeatable for 2 Credits

MUP 3203 Organ: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUP 3202 with a minimum grade of C
Course Material Fees: $500
Repeatable for 2 Credits

MUP 3204 Organ: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUP 3203 with a minimum grade of C
Course Material Fees: $500
Repeatable for 2 Credits

MUP 3205 Organ: Secondary Instruction Cr. 1
Offered Fall, Winter.
Course Material Fees: $300
Repeatable for 4 Credits

MUP 3211 Piano: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUP 1214 with a minimum grade of C
Course Material Fees: $500
Repeatable for 2 Credits

MUP 3212 Piano: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUP 3211 with a minimum grade of C
Course Material Fees: $500
Repeatable for 2 Credits

MUP 3213 Piano: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUP 3212 with a minimum grade of C
Course Material Fees: $500
Repeatable for 2 Credits

MUP 3214 Piano: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUP 3213 with a minimum grade of C
Course Material Fees: $500
Repeatable for 2 Credits

MUP 3215 Piano: Secondary Instruction Cr. 1
Offered Fall, Winter.
Course Material Fees: $300
Repeatable for 4 Credits

MUP 3221 Voice: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUP 1224 with a minimum grade of C
Course Material Fees: $500
Repeatable for 2 Credits

MUP 3222 Voice: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUP 3221 with a minimum grade of C
Course Material Fees: $500
Repeatable for 2 Credits

MUP 3223 Voice: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUP 3222 with a minimum grade of C
Course Material Fees: $500
Repeatable for 2 Credits

MUP 3224 Voice: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUP 3223 with a minimum grade of C
Course Material Fees: $500
Repeatable for 2 Credits

MUP 3225 Voice: Secondary Instruction Cr. 1
Offered Fall, Winter.
Course Material Fees: $300
Repeatable for 4 Credits

MUP 3231 Strings: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUP 1234 with a minimum grade of C
Course Material Fees: $500
Repeatable for 2 Credits

MUP 3232 Strings: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUP 3231 with a minimum grade of C
Course Material Fees: $500
Repeatable for 2 Credits

MUP 3233 Strings: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUP 3232 with a minimum grade of C
Course Material Fees: $500
Repeatable for 2 Credits

MUP 3234 Strings: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUP 3233 with a minimum grade of C
Course Material Fees: $500
Repeatable for 2 Credits

MUP 3235 Strings: Secondary Instruction Cr. 1
Offered Fall, Winter.
Course Material Fees: $300
Repeatable for 4 Credits

MUP 3241 Woodwinds: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUP 1244 with a minimum grade of C
Course Material Fees: $500
Repeatable for 2 Credits

MUP 3242 Woodwinds: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUP 3241 with a minimum grade of C
Course Material Fees: $500
Repeatable for 2 Credits

MUP 3243 Woodwinds: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUP 3242 with a minimum grade of C
Course Material Fees: $500
Repeatable for 2 Credits

MUP 3244 Woodwinds: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUP 3243 with a minimum grade of C
Course Material Fees: $500
Repeatable for 2 Credits

MUP 3245 Woodwinds: Secondary Instruction Cr. 1
Offered Fall, Winter.
Course Material Fees: $300
Repeatable for 4 Credits

MUP 3251 Brasswinds: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUP 1254 with a minimum grade of C
Course Material Fees: $500
Repeatable for 2 Credits

MUP 3252 Brasswinds: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUP 3251 with a minimum grade of C
Course Material Fees: $500
Repeatable for 2 Credits

MUP 3253 Brasswinds: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUP 3252 with a minimum grade of C
Course Material Fees: $500
Repeatable for 2 Credits

MUP 3254 Brasswinds: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUP 3253 with a minimum grade of C
Course Material Fees: $500
Repeatable for 2 Credits

MUP 3255 Brasswinds: Secondary Instruction Cr. 1
Offered Fall, Winter.
Course Material Fees: $300
Repeatable for 4 Credits

MUP 3261 Percussion: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUP 1264 with a minimum grade of C
Course Material Fees: $500
Repeatable for 2 Credits

MUP 3262 Percussion: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUP 3261 with a minimum grade of C
Course Material Fees: $500
Repeatable for 2 Credits

MUP 3263 Percussion: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUP 3262 with a minimum grade of C
Course Material Fees: $500
Repeatable for 2 Credits

MUP 3264 Percussion: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUP 3263 with a minimum grade of C
Course Material Fees: $500
Repeatable for 2 Credits

MUP 3265 Percussion: Secondary Instruction Cr. 1
Offered Fall, Winter.
Course Material Fees: $300
Repeatable for 4 Credits

MUP 3271 Harp: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUP 1274 with a minimum grade of C
Course Material Fees: $500
Repeatable for 2 Credits

MUP 3272 Harp: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUP 3271 with a minimum grade of C
Course Material Fees: $500
Repeatable for 2 Credits

MUP 3273 Harp: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUP 3272 with a minimum grade of C
Course Material Fees: $500
Repeatable for 2 Credits

MUP 3274 Harp: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUP 3273 with a minimum grade of C
Course Material Fees: $500
Repeatable for 2 Credits

MUP 3275 Harp: Secondary Instruction Cr. 1
Offered Fall, Winter.
Course Material Fees: $300
Repeatable for 4 Credits

MUP 3281 Classic Guitar: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUP 1284 with a minimum grade of C
Course Material Fees: $500
Repeatable for 2 Credits

MUP 3282 Classic Guitar: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUP 3281 with a minimum grade of C
Course Material Fees: $500
Repeatable for 2 Credits

MUP 3283 Classic Guitar: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUP 3282 with a minimum grade of C
Course Material Fees: $500
Repeatable for 2 Credits

MUP 3284 Classic Guitar: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUP 3283 with a minimum grade of C
Course Material Fees: $500
Repeatable for 2 Credits

MUP 3285 Classic Guitar: Secondary Instruction Cr. 1
Offered Fall, Winter.
Course Material Fees: $300
Repeatable for 4 Credits

MUP 3321 Jazz Piano: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUP 1324 with a minimum grade of C and (MUA 2820 (may be taken concurrently) with a minimum grade of C or MUA 2822 (may be taken concurrently) with a minimum grade of C)
Course Material Fees: $500
Repeatable for 2 Credits

MUP 3322 Jazz Piano: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUP 3321 with a minimum grade of C and (MUA 2820 (may be taken concurrently) with a minimum grade of C or MUA 2822 (may be taken concurrently) with a minimum grade of C)
Course Material Fees: $500
Repeatable for 2 Credits

MUP 3323 Jazz Piano: Principal Instruction Cr. 1
Advanced private instruction in jazz piano. Offered Fall, Winter.
Prerequisite: MUP 3322 with a minimum grade of C and (MUA 2820 (may be taken concurrently) with a minimum grade of C or MUA 2822 (may be taken concurrently) with a minimum grade of C)
Restriction(s): Enrollment is limited to students with a major in Music or Music Honors.
Course Material Fees: $500
Repeatable for 2 Credits

MUP 3324 Jazz Piano: Principal Instruction Cr. 1
Advanced private jazz piano. Offered Fall, Winter.
Prerequisite: MUP 3323 with a minimum grade of C and (MUA 2820 (may be taken concurrently) with a minimum grade of C or MUA 2822 (may be taken concurrently) with a minimum grade of C)
Restriction(s): Enrollment is limited to students with a major in Music or Music Honors.
Course Material Fees: $500
Repeatable for 2 Credits
MUP 3325 Jazz Piano: Secondary Instruction Cr. 1
Offered Fall, Winter.
Course Material Fees: $300
Repeatable for 4 Credits

MUP 3331 Jazz Strings: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUP 1334 with a minimum grade of C and (MUA 2820 (may be taken concurrently) with a minimum grade of C or MUA 2822 (may be taken concurrently) with a minimum grade of C)
Course Material Fees: $500
Repeatable for 2 Credits

MUP 3332 Jazz Strings: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUP 3331 with a minimum grade of C and (MUA 2820 (may be taken concurrently) with a minimum grade of C or MUA 2822 (may be taken concurrently) with a minimum grade of C)
Course Material Fees: $500
Repeatable for 2 Credits

MUP 3333 Jazz Strings: Major Instruction Cr. 1
Individual instruction on a jazz string instrument. Offered Fall, Winter.
Prerequisite: MUP 3332 with a minimum grade of C and (MUA 2820 (may be taken concurrently) with a minimum grade of C or MUA 2822 (may be taken concurrently) with a minimum grade of C)
Restriction(s): Enrollment is limited to students with a major in Music or Music Honors.
Course Material Fees: $500
Repeatable for 2 Credits

MUP 3334 Jazz Strings: Principal Instruction Cr. 1
Advanced private instruction on a jazz string instrument. Offered Fall, Winter.
Prerequisite: MUP 3333 with a minimum grade of C and (MUA 2820 (may be taken concurrently) with a minimum grade of C or MUA 2822 (may be taken concurrently) with a minimum grade of C)
Restriction(s): Enrollment is limited to students with a major in Music or Music Honors.
Course Material Fees: $500
Repeatable for 2 Credits

MUP 3335 Jazz Strings: Secondary Instruction Cr. 1
Offered Fall, Winter.
Course Material Fees: $300
Repeatable for 4 Credits

MUP 3341 Jazz Woodwinds: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUP 1344 with a minimum grade of C and (MUA 2820 (may be taken concurrently) with a minimum grade of C or MUA 2822 (may be taken concurrently) with a minimum grade of C)
Course Material Fees: $500
Repeatable for 2 Credits

MUP 3342 Jazz Woodwinds: Principal Instruction Cr. 1
Offered Fall, Winter.
Prerequisite: MUP 3341 with a minimum grade of C and (MUA 2820 (may be taken concurrently) with a minimum grade of C or MUA 2822 (may be taken concurrently) with a minimum grade of C)
Course Material Fees: $500

MUT - MUSIC THEORY

MUT 1100 Elementary Music Theory Cr. 3
Terminology and standard notation, including intervals, triads, scales, rhythm, correlated ear training, and general musicianship. No degree credit for music majors. Offered Every Term.

MUT 1140 Theory I Cr. 3
Prior knowledge of scales, clefs, and key signatures. Triads, intervals, principles of four-part writing, voice leading and melody harmonization, including all diatonic triads, dominant and super tonic seventh chords, inversions, and nonharmonic tones. Offered Fall, Winter.
Prerequisite: MUT 1100 with a minimum grade of C
Restriction(s): Enrollment is limited to students with a major in Music or Music Honors.

MUT 1150 Ear Training I Cr. 1
An introduction to sight singing, solfeggio, and the basic materials of tonal music including intervals, chords, simple melodies, and basic harmonic progressions. Offered Fall, Winter.
Restriction(s): Enrollment is limited to students with a major in Music or Music Honors.

MUT 1160 Theory II Cr. 3
Further study of diatonic harmony, including idiomatic chord functions and tonal sequences. Offered Winter, Spring/Summer.
Prerequisite: MUT 1140 with a minimum grade of C

MUT 1170 Ear Training II Cr. 1
A continuation of MUT 1150. Sight-singing and dictation of more advanced diatonic materials. Offered Winter, Spring/Summer.
Prerequisite: MUT 1150 with a minimum grade of C

MUT 1200 Beginning Composition I Cr. 2
Introduction to creative writing in twentieth and twenty-first century composition. Group composition projects and associated private lessons explore a broad range of contemporary styles and techniques. Topics include melodic studies, process, acoustics, polytonality, free atonality, serialism, timbre, postmodernism. Offered Fall.
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment is limited to students with a major in Music or Music Honors.

MUT 1210 Beginning Composition II Cr. 2
Introduction to creative writing in twentieth and twenty-first century composition. Group composition projects and associated private lessons explore a broad range of contemporary styles and techniques. Topics include rhythmic studies, notational exploration, indeterminacy, extended techniques, minimalism, pitch class sets, electronic music. Offered Winter.
Prerequisite: MUT 1200 with a minimum grade of C

MUT 2030 Keyboard Harmony I Cr. 1
First of a two-course sequence. Basic training in score reading, such as practice in various clefs and transpositions found in current instrumental writing. No credit after MUT 2040. Offered Every Other Year.
Prerequisite: MUA 2795 with a minimum grade of C and MUT 1160 with a minimum grade of C

MUT 2040 Keyboard Harmony II Cr. 1
Continuation of MUT 2030. Advanced harmonic progressions applied to the keyboard; figured bass; harmonization of soprano or bass; modulation; transposition, and score reading. Offered Every Other Year.
Prerequisites: MUT 2030 with a minimum grade of C

MUT 2100 Counterpoint Cr. 2
Overall introduction to counterpoint with some emphasis on the style of J. S. Bach. Offered Fall.
Prerequisite: MUT 2140 with a minimum grade of C

MUT 2120 Jazz Theory and Harmony Cr. 3
Harmonic, rhythmic and melodic concepts used in jazz including basic chord nomenclature, non-tertian sonorities and advanced improvisation. Offered Winter.
Prerequisite: MUT 1160 with a minimum grade of C

MUT 2140 Theory III Cr. 3
Study of chromatic harmony and voice leading; introduction to complete tonal structures. Offered Fall.
Prerequisite: MUT 1160 with a minimum grade of C

MUT 2150 Ear Training III Cr. 1
Sight singing and dictation of chromatic materials; more advanced work with rhythm and meter. Offered Fall.
Prerequisite: MUT 1170 with a minimum grade of C

MUT 2160 Theory IV Cr. 3
Twentieth- and twenty-first century music; impressionistic techniques. Mainstream compositional devices of melody, harmony and rhythm; serial music, electronic music, aleatoric music, contemporary notation. Offered Winter.
Prerequisite: MUT 2140 with a minimum grade of C

MUT 2170 Ear Training IV Cr. 1
Sight singing and dictation of more advanced chromatic material; introduction to ear training with post-tonal music. Offered Winter.
Prerequisite: MUT 2150 with a minimum grade of C

MUT 2200 Beginning Composition III Cr. 2
Students continue to develop compositional skill and technique. Small groups and associated private lessons explore writing for specific instrument families and larger combinations than those explored in the first year. Offered Fall.
Prerequisite: MUT 1210 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students.

MUT 2210 Beginning Composition IV Cr. 2
Continuation of MUT 2200. Offered Winter.
Prerequisite: MUT 2200 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students.

MUT 2885 Jazz Improvisation I Cr. 1
Techniques of individual jazz improvisation. Offered Fall.
Prerequisite: MUT 1160 with a minimum grade of C and MUT 1170 with a minimum grade of C
Restriction(s): Enrollment is limited to students with a major in Music or Music Honors.
Repeatable for 2 Credits

MUT 2887 Jazz Improvisation II Cr. 1
Continuation of MUT 2885; emphasis on individual jazz improvisation skills. Offered Winter.
Prerequisite: MUT 2885 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment is limited to students with a major in Music or Music Honors.
Repeatable for 2 Credits

MUT 3000 Orchestration Cr. 2
Practical course in arranging music for orchestra, including study of transposition, arrangements from a piano score; general treatment of range, relationship, timbre, balance of orchestral instruments. Offered Fall.
Prerequisite: MUT 2160 with a minimum grade of C and MUT 2170 with a minimum grade of C

MUT 3200 Intermediate Composition I Cr. 2
Emphasizes refinement and personalization of student compositional activity through private composition lessons. Offered Fall.
Prerequisites: MUT 2210 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students.

MUT 3210 Intermediate Composition II Cr. 2
Continuation of MUT 3200. Offered Winter.
Prerequisites: MUT 3200 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students.

MUT 3990 Directed Study Cr. 1-3
Individualized research and work in music theory or composition under the supervision of a faculty member. Offered Fall, Winter.
Restriction(s): Enrollment limited to students with a class of Junior or Senior.
Repeatable for 6 Credits

MUT 4200 Advanced Composition I Cr. 2
Creative writing in twentieth- and twenty-first century idioms. Aesthetic, stylistic and formal problems in private composition lessons employing contemporary techniques. Offered Fall.
Prerequisite: MUT 3210 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students.
Repeatable for 4 Credits

MUT 4210 Advanced Composition II Cr. 2
Continuation of MUT 4200. Offered Winter.
Prerequisites: MUT 4200 with a minimum grade of D-
Restriction(s): Enrollment is limited to Undergraduate level students.
Repeatable for 4 Credits

MUT 4990 BA Project Cr. 2
Directed study leading to completion of the B.A. project in music. Offered Fall, Winter.
Restriction(s): Enrollment limited to students with a class of Senior; enrollment is limited to students with a major in Music or Music Honors; enrollment limited to students in a Bachelor of Arts degree.
Equivalent: MUA 4990, MUH 4990

MUT 5060 Advanced Orchestration Cr. 3
Arranging and scoring for orchestra in all forms of ensemble structure. No credit for the M.Mus. in composition/theory degree. Offered Intermittently.
Prerequisite: MUT 3000 with a minimum grade of C

MUT 5085 History of Theory Cr. 3
Theoretical writings from Plato to Rameau to Schenker, in historical contexts. Offered for undergraduate credit only. Offered Intermittently.
Restriction(s): Enrollment is limited to Undergraduate level students.

MUT 5110 Jazz Arranging and Composition I Cr. 3
Creative writing for small jazz and pop ensembles. Arranging for three to five pieces including ""head"" arrangements, block chord technique and contrapuntal writing. No credit for M.Mus. in jazz performance degree. Offered Fall.
Prerequisite: MUT 2160 with a minimum grade of C and MUT 2170 with a minimum grade of C

MUT 5120 Jazz Arranging and Composition II Cr. 3
Creative writing for larger jazz and pop ensembles; jazz arranging for six to eighteen pieces combining various textures and timbres. No credit for M.Mus. in jazz performance degree. Offered Winter.
Prerequisite: MUT 5110 with a minimum grade of C

MUT 5130 Jazz Arranging and Orchestration Cr. 3
Arranging pieces with concentration on orchestrating for large jazz ensembles. No credit for M.Mus. in jazz performance degree. Offered Fall.
Prerequisite: MUT 5120 with a minimum grade of C

MUT 5200 Special Topics in Theory Cr. 3
In-depth study of such topics as set or serial theories, aesthetics and philosophies of musics, and recent theoretical developments. Student may repeat course when topic changes. Offered for undergraduate credit only. Offered Intermittently.
Prerequisite: MUT 5997 with a minimum grade of C
Equivalent: MUT 7200
Repeatable for 6 Credits

MUT 5220 Introduction to Schenkerian Analysis Cr. 3
Aesthetic premises and basic analytic procedures of tonal music, viewed from a Schenkerian perspective. Applications of graphic technique to short phrases and to larger forms (e.g., sonata) from a wide repertory (1700-1900). Offered for undergraduate credit only. Offered Every Other Year.
Prerequisite: MUT 5997 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students.

MUT 5240 Analysis of Twentieth-Century Music Cr. 3
Aesthetic and technical procedures of twentieth-century music. Applications of pitch-class set and interval analysis to short phrases and to large-scale organizational strategies of entire pieces. Offered for undergraduate credit only. Offered Every Other Year.
Prerequisite: MUT 5997 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students.

MUT 5280 Interactive Electronic Music Composition Cr. 3
Explores basic interactive electronic music composition using computer music software for sound. Offered Yearly.

MUT 5997 Analytical Techniques Cr. 3
Capstone course for Music Department. Structural analysis of tonal music in historical perspective. Credit not applicable to graduate degrees in music. Offered Winter.
Prerequisite: MUT 2160 with a minimum grade of C and MUT 2170 with a minimum grade of C and MUH 3330 with a minimum grade of C

MUT 7020 Seminar in Schenkerian Analysis Cr. 3
Aesthetic premises and basic analytic procedures of tonal music, viewed from a Schenkerian perspective. Applications of graphic technique to short phrases and to larger forms (e.g., sonata) from a wide repertory (1700-1900). Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Music.

MUT 7040 Seminar in Twentieth Century Music Cr. 3
Analysis of twentieth-century music using current applications of post-tonal theories. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Music.

MUT 7050 Seminar in Music Theory Pedagogy Cr. 3
Study of materials, teaching techniques, philosophy and organization of music theory classes. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Music.

MUT 7070 Advanced Jazz Theory and Analysis Cr. 3
Analysis and application of advanced harmonic, rhythmic and melodic concepts used in jazz improvisation and composition. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Music.

MUT 7085 History of Theory Cr. 3
Theoretical writings from Plato to Rameau to Schenker, in historical contexts. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Music.

MUT 7100 Graduate Composition Cr. 3
Advanced creative work in all of the idioms of twenty-first century musical composition. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a concentration in Composition/ Theory; enrollment limited to students in the Master of Music program.
Repeatable for 12 Credits

MUT 7200 Special Topics in Theory Cr. 3
In-depth study of such topics as set or serial theories, aesthetics and philosophies of musics, and recent theoretical developments. Student may repeat course when topic changes. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Music or Music Honors.
Equivalent: MUT 5200
Repeatable for 6 Credits

MUT 7992 Directed Study in Theory Cr. 1-3
Offered Fall, Winter.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 6 Credits

MUT 8999 Master's Thesis Direction Cr. 1-8
Preparation of M.M. thesis project in composition/theory. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students with a class of Candidate Masters; enrollment limited to students in a Master of Music degree; enrollment limited to students in the Master of Music program.
Repeatable for 8 Credits

NE - NEAR EASTERN STUDIES

NE 1900 Comparative Religion Cr. 3
Origins of religion: its social importance, its structure (fetish, totemism, myth, ritual). Pre-historic religion and the major religious traditions. Offered Every Other Year.

NE 2000 Introduction to Islamic Civilization of the Near East Cr. 3
Satisfies General Education Requirement: Civ and Societies (CLAS only), Foreign Culture, Global Learning Inquiry
The origin of Islam; growth of Islamic thought and institutions; Islamic revival and reform in modern times. Offered Yearly.

NE 2010 The Bible and Ancient Mythology Cr. 3
Satisfies General Education Requirement: Cultural Inquiry, Civ and Societies (CLAS only)
The Bible and Biblical religion in the context of its antecedents in the ancient world. Offered Yearly.

NE 2030 The Age of Islamic Empires: 600-1600 Cr. 3
Satisfies General Education Requirement: Cultural Inquiry, Global Learning Inquiry, Historical Studies
Historical evolution of the Islamic world from birth of Islam to height of Ottoman Empire. Islamic history and civilization in a world-historical context; developments indigenous to specific regions, such as Islamic Spain. Offered Every Term.
Equivalent: HIS 1800

NE 2040 The Modern Middle East Cr. 3
Satisfies General Education Requirement: Cultural Inquiry, Global Learning Inquiry, Historical Studies
Survey of Middle East history in modern era, focusing on the nineteenth and twentieth centuries. Ottoman history from 1600: impact of European imperialism and nationalist movements, resulting in development of modern state systems, regional/national conflicts, and Islamic response to modernization. Offered Every Term.
Equivalent: HIS 1810

NE 2060 Hebrew/Israeli Film: Trends and Themes in Israeli Cinema Cr. 3
Satisfies General Education Requirement: Cultural Inquiry, Visual Performing Arts
Evolution of Hebrew/Israeli cinema from the beginning of the twentieth century to the present. Collectivism to individual concerns. From Yaakov Ben-Dov to Joseph Cedar. Course taught in English; films have English subtitles. Offered Every Term.

NE 2170 Islamic and Near Eastern Philosophy Cr. 3
Satisfies General Education Requirement: Global Learning Inquiry
An examination of major figures and movements in Islamic and Near Eastern philosophy. Offered Fall.
Equivalent: PHI 2170

NE 2700 Topics in Middle Eastern Studies Cr. 1-8
Specialized topics related to the Middle East: language, literature, etc. Offered Intermittently.
Repeatable for 8 Credits

NE 3010 Jewish History from the Bible to 1492 Cr. 4
Survey the history of the Jews from biblical antiquity until the Expulsion from Spain. Special attention will be paid to the world of the Hebrew Bible, the Jewish encounter with Hellenistic Civilization, the creation and triumph of Rabbinic Judaism, and Jewish life under Christian and Muslim Rule. Offered Intermittently.
Restriction(s): Enrollment is limited to Undergraduate level students.
Equivalent: HIS 3010

NE 3011 Jewish History since 1492 Cr. 3
Major developments in Jewish History since the expulsion of the Jews from Spain in 1492. Specific topics include the impact of the Spanish expulsion, the Jews of the Ottoman Empire, Jews and the Italian Renaissance, Martin Luther and the Jews, the golden age of Polish Jewry, 1648, Shabbetai Tzvi, Hassidic Judaism, the Court Jews and Age of Absolutism, the impact of the Enlightenment, the French Revolution and the Age of Emancipation, the twin birth of Reform and Orthodox Judaism, Anti-Semitism and the Dreyfus Affair, Zionism and other forms of Jewish Nationalism, Hitler and the Final Solution, the creation of the State of Israel, and Jews in Post-World War II America, Israel, Europe, and the Soviet Union. Offered Intermittently.
Restriction(s): Enrollment is limited to Undergraduate level students.
Equivalent: HIS 3011

NE 3015 History of Judaism and Jewish Thought Cr. 4
Development of Judaism and Jewish thought from early beginnings in the Hebrew Bible to contemporary American Jewish religious developments. Offered Intermittently.
Equivalent: HIS 3015

NE 3040 Twentieth Century Middle East Cr. 3
The contemporary Middle East; emphasis on social and economic development. Investigation of issues that identify the region, such as oil, gender issues, fundamentalism, and regional conflicts. Offered Every Term.
Equivalent: HIS 3320

NE 3061 Oral History in Middle Eastern Tradition Cr. 3
Methodologies, techniques and applications of oral history used as tools to investigate modern social history of Middle Eastern societies. Offered Every Other Year.
Equivalent: ANT 3061

NE 3225 Modern Israeli Culture: A Pluralistic Perspective Cr. 3
Satisfies General Education Requirement: Foreign Culture, Global Learning Inquiry
Minorities in Israel; the Kibbutz; women in public life; the Arab in Israeli literature; the press; education; technology; archaeology; music and dance. Taught in English. Offered Every Term.

NE 3320 Muhammad: Life of the Prophet Cr. 3
Introduction to the historical Muhammad in context of religious, political, social and economic life of seventh century Arabia. Aspects of his career, from religious to secular, including his relationship with other religious communities. Offered Every Other Year.

NE 3520 Women and Gender in Middle East History Cr. 3
Women's role in Middle East history; impact of religion, culture, social and economic change on construction of gender in the Middle East. Offered Intermittently.
Equivalent: GSW 3520

NE 3550 Arab Society in Transition Cr. 3
Satisfies General Education Requirement: Diversity Equity Incl Inquiry, Foreign Culture, Global Learning Inquiry
Distinctive social and cultural institutions and processes of change in the Arab Middle East. Regional variations: background and discussion of current political and economic systems and their relations to international systems. Offered Intermittently.
Equivalent: ANT 3550

NE 3990 Directed Study Cr. 1-3
Readings; consultations and reports. Offered Every Term.
Repeatable for 9 Credits

NE 5000 Globalization, Social History and Gender in the Arabian Gulf Cr. 3
Social history of the Arabian Gulf (especially Bahrain, Qatar, and the UAE) in the age of globalization. Contemporary history with special emphasis on gender relations as an index of current social developments in the region. Offered Every Other Year.
Equivalent: HIS 5960

NE 5100 Teaching of Arabic as a Foreign/Second Language (TAFL) Cr. 3
Theoretical and conceptual framework of second language learning. Proper training in pedagogy as related to learning Arabic as a foreign/second language. Offered Yearly.
Equivalent: ARB 5100, LIN 5110

NE 5110 History and Development of Islamic Political Thought Cr. 3
Historical analysis of political Islam through study of the precepts and historical vicissitudes impacting the Islamic world from within and from external forces. Offered Every Other Year.
Prerequisites: NE 2030 with a minimum grade of D- and NE 3040 with a minimum grade of D-
Equivalent: PS 5760

NE 5210 Arabic Sociolinguistics Cr. 3
Arabic dialectology; Arabic as a minority language in contact. Theories and techniques developed outside Arabic, and their applicability to Arabic situations. Offered Fall.
Equivalent: ARB 5210, LIN 5210

NE 5220 Muslim Personal Law Cr. 3
Study of Muslim family law, with attention to the status of women and children in the law. Areas include: betrothal, marital contracts, forms of marital dissolution, laws of inheritance, and child custody. Focus on classical interpretation of the law, and its application in modern times. Offered Intermittently.

NE 5230 Structure of Arabic Cr. 3
Survey of historical constitution and theoretical structure of Arabic. Offered Yearly.
Equivalent: ARB 5230, LIN 5230

NE 5300 Quran: History and Interpretation Cr. 3
Traditional and revisionist narratives of the canonization of the Quran; textual features of the Quran; history of quranic hermeneutics and exegesis Offered Yearly.

NE 5700 Topics in Middle Eastern Studies Cr. 1-4
Special topics in Middle Eastern politics, language, and literature. Offered Yearly.
Repeatable for 8 Credits

NE 5710 Islam and the Challenge of Modernity Cr. 3
Influence of Enlightenment values and colonial institutions on the social, political, and ideological structures of the Islamic World. Offered Every Other Year.

NE 5990 Directed Study Cr. 1-3
Offered Every Term.
Repeatable for 9 Credits

NE 5993 Writing Intensive Course in Near Eastern and Asian Studies Cr. 0
Satisfies General Education Requirement: Writing Intensive Competency
Disciplinary writing assignments under the direction of a faculty member. Must be selected in conjunction with a designated corequisite; see section listing in Schedule of Classes for corequisites available each term. Satisfies the University General Education Writing Intensive Course in the Major requirement. Required for all majors. Offered Every Term.
Prerequisites: AFS 2390 with a minimum grade of C or ENG 2390 with a minimum grade of C or ENG 3010 with a minimum grade of C or ENG 3020 with a minimum grade of C or ENG 3050 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students.

NE 5999 Internship in Near Eastern Studies Cr. 3
Internship in a public or private organization related to Near Eastern studies. Offered for undergraduate credit only. Offered Every Term.
Restriction(s): Enrollment is limited to students with a major, minor, or concentration in Near Eastern Languages , Near Eastern Languages Honors, Near Eastern Studies or Near Eastern Studies Honors.

NE 6031 Methodologies and Research in Oral History: Near Eastern and Asian Societies Cr. 3
Techniques, methodologies and legalities of studying and interpreting alternative data for historical research. Social and cultural sensitivities of Near Eastern and Asian societies and the gathering of historical information through oral research. Offered for graduate credit only. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.

NE 6500 Religion and Society Cr. 3
Role of religion in societies from ancient to contemporary times. Religion as related to science, violence, patriarchy, feminism, art, government, ethics, and issues of religious pluralism. Offered Every Other Year.

NE 7010 Introduction to Literary Theory Cr. 3
Graduate-level introduction to key critical perspectives, theories, problems, and questions that have informed the discussions and analyses of twentieth- and twenty-first-century literary and cultural scholars. Specific theoretical paradigms used to determine the task of textual interpretation, locate the limits of each approach, trace the emergence of subsequent theoretical paradigms, and think about how such theories might or might not be relevant in the study of specific texts. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: CLA 7010, FRE 7010, GER 7010, ITA 7010, SLA 7010, SPA 7010

NE 7100 Islam and the West Cr. 3
Areas covered include: emergence of Muslim political power in seventh century Middle East; Iberian Peninsula and religious pluralism; Crusades and their impact on religion and society in Middle East; colonialism and transfer of Enlightenment values to Islamic world; Muslim migration to Europe and America. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.

NE 7300 Qur'an: History and Interpretation Cr. 3
Traditional and revisionist narratives of the canonization of the Qu'ran; textual features of the Qu'ran; history of qur'anic hermeneutics and exegesis Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.

NE 7999 Master's Essay Direction Cr. 1-3
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students with a class of Candidate Masters.

NE 8999 Master's Thesis Research and Direction Cr. 1-8
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students with a class of Candidate Masters.
Repeatable for 8 Credits

NEN - NANOENGINEERING

NEN 5000 Introduction to Nanotechnology and Nanomedicine Cr. 4
Basic understanding of nanomaterials synthesis, characterization, manufacturing methods, and their biomedical applications. Offered Winter.
Prerequisites: BE 1300 with a minimum grade of D- or BE 1310 with a minimum grade of D-

NEN 5100 Nanoengineering Lab Cr. 2
Hands-on experience in the synthesis and characterization of nanomaterials, as well as device fabrication and biomedical applications. Offered Winter.
Corequisite: NEN 5000
Course Material Fees: $100

NEN 5200 Scale-down Engineering - from Engineered Systems to Nanotechnology Cr. 4
Basic understanding of scale-down engineering in a wide range of systems including sensors, drug delivery, manufacturing, electromagnetic materials, and imaging. Offered Fall.
Prerequisites: BE 1300 or BE 1310 and NEN 5000

NEN 5300 Nanoengineering Research and Capstone Design Cr. 4
Formulation and solution of open-ended research problems related to nanomaterials and nanotechnology using current methods, tools and principles of nano-engineering. Offered Winter.
Prerequisites: NEN 5000 with a minimum grade of D- and NEN 5100 with a minimum grade of D- and NEN 5200 with a minimum grade of D-

NEN 5400 Nanoengineering Seminar Cr. 1
State-of-the-art research in nanotechnology by attending seminars given by nationally and internationally prominent. Offered Fall, Winter.
Prerequisites: BE 1300 with a minimum grade of D- or BE 1310 with a minimum grade of D-

NFS - NUTRITION AND FOOD SCIENCE

NFS 2030 Nutrition and Health Cr. 3
Satisfies General Education Requirement: Life Sciences, Natural Scientific Inquiry
Food as a carrier of nutrients; food availability; nutrient utilization including digestion, metabolism and excretion. Patterns of food consumption based on biological, psychological and social needs; and anthropological findings. Offered Every Term.
Repeatable for 6 Credits

NFS 2130 Introductory Food Science Cr. 3
Chemical, physical and biological properties of foods which affect their keeping quality, nutritional and organoleptic values. For students interested in the scientific study of foods. Offered Every Term.

NFS 2140 Introductory Food Science Laboratory Cr. 1
Experimental study of principles discussed in NFS 2130. For students interested in the scientific study of food. Offered Every Term.
Prerequisite: NFS 2130 with a minimum grade of C-
Course Material Fees: $90

NFS 2220 Nutrition Laboratory Cr. 1
Laboratory course for introductory nutrition. Meets General Education Laboratory requirement. Offered Every Term.
Prerequisites: May be taken concurrently: NFS 2030 with a minimum grade of C- or NFS 3230 with a minimum grade of C-
Course Material Fees: $90

NFS 3230 Human Nutrition Cr. 3-4
Principles of the science of nutrition. Emphasis on physiological requirements as well as biochemical and metabolic processes of nutrients for human growth, development and maintenance within the life cycle. Honors students participate in additional reading, discussion and presentations. Offered Every Term.
Prerequisites: NFS 2030 with a minimum grade of C-

NFS 3270 Eating Disorders Cr. 3
Causes and treatments of anorexia nervosa, bulimia nervosa, binge eating, and overeating, from biological, psychological, and social perspectives. Offered Winter.
Prerequisite: PSY 1010 with a minimum grade of C- or PSY 1020 with a minimum grade of C-

NFS 3300 Science, History, and Culture of Italian Cuisine Cr. 3
Satisfies General Education Requirement: Cultural Inquiry, Global Learning Inquiry
Explores the science, history, and culture of Italian food and the Mediterranean Diet, and how Italian food culture has evolved throughout the centuries. Taught in English. Offered Yearly.
Equivalent: ITA 3300

NFS 4100 Nutrition Care Process I Cr. 2
Introduction to management of nutrition care in both healthy and ill people throughout the life span using the Nutrition Care Process model, developed by the Academy of Nutrition and Dietetics. Emphasis is on the Registered Dietitian's role in in the four steps of the process, nutrition assessment, diagnosis, intervention, and monitoring and evaluation. The process covers identification of nutrition-related problems in patients, planning intervention to solve their nutrition problems and reduce nutrition-related health risks associated with chronic disease. Offered Fall.
Prerequisite: NFS 3230 with a minimum grade of C- and NFS 5220 (may be taken concurrently) with a minimum grade of B- and NFS 5350 (may be taken concurrently) with a minimum grade of B-
Restriction(s): Enrollment limited to students in a PBC in Dietetics degree.
Course Material Fees: $90

NFS 4120 Nutrition Care Process II Cr. 2
In-depth and simulation-based application of the steps of the Nutrition Care Process, including nutritional assessment, interpretation of biochemical parameters, drug-nutrient interactions, planning therapeutic diets, documenting in the medical record, and patient interviewing. Offered Winter.
Prerequisite: NFS 4100 with a minimum grade of B- and NFS 5250 (may be taken concurrently) with a minimum grade of B-
Restriction(s): Enrollment limited to students in a PBC in Dietetics degree.

NFS 4150 Advanced Food Science Cr. 3
Satisfies General Education Requirement: Writing Intensive Competency
Principles of food science such as: chemical ingredients of food, issues in food product development, sensory evaluation, and microbiological safety of food. Lab provides hands-on experience and enhances understanding of major issues in the overall quality and safety of food. Offered Winter, Spring/Summer.
Prerequisites: BIO 2200 with a minimum grade of D- and NFS 2130 with a minimum grade of C-
Restriction(s): Enrollment is limited to Undergraduate level students.
Course Material Fees: $90

NFS 4160 Food Laws and Regulations Cr. 3
State, federal and international food law; interpretations of regulatory food standards and determination of conformity of food products to them. Methods of food inspection. Role of the food law in assuring food safety, wholesomeness and nutritional quality. Offered Fall, Spring/Summer.
Prerequisite: NFS 2030 with a minimum grade of C- or NFS 3230 with a minimum grade of C-

NFS 4200 Dietetic Practice I Cr. 4
Supervised practice in various dietetic services venues. Offered Winter.
Prerequisite: NFS 4100 with a minimum grade of B- and NFS 4120 (may be taken concurrently) with a minimum grade of B-
Restriction(s): Enrollment limited to students in a PBC in Dietetics degree.
Course Material Fees: $400

NFS 4210 Dietetic Practice II Cr. 10
Satisfies General Education Requirement: Writing Intensive Competency
Supervised practice in specialty and critical care areas and in community settings; experiences in developing, implementing, evaluating and documenting care plans for individuals needing specialized nutrition support and nutrition education programs for health promotion and for high risk groups. Offered Fall.
Prerequisite: NFS 4100 with a minimum grade of B- and NFS 4120 with a minimum grade of B- and NFS 5250 with a minimum grade of B- and NFS 5200 (may be taken concurrently) with a minimum grade of B-
Restriction(s): Enrollment limited to students in a PBC in Dietetics degree.
Course Material Fees: $700

NFS 4220 Dietetic Practice III Cr. 10
Supervised practice in various specialty, critical care, and long-term care areas and/or in community settings. Experiences in developing, implementing, evaluating and documenting care plans for individuals needing nutrition care and specialized nutrition support, and nutrition education programs for health promotion and for high risk groups. Offered Winter.
Prerequisite: NFS 4210 with a minimum grade of B- and NFS 5360 (may be taken concurrently) with a minimum grade of B-
Restriction(s): Enrollment limited to students in a PBC in Dietetics degree.
Course Material Fees: $700

NFS 4230 Macronutrient Metabolism Cr. 3
Focus on normal human nutrition and physiological functions. Biochemical properties of macronutrients and their interrelationships at the cellular and subcellular level. Offered Fall.
Prerequisites: NFS 2130 with a minimum grade of C- and NFS 3230 with a minimum grade of C- and CHM 1240 with a minimum grade of D
Restriction(s): Enrollment is limited to Undergraduate level students.

NFS 4231 Human Nutrition: Micronutrients Cr. 3
Principles of micronutrient metabolism, including function, toxicity, and deficiency; principles and techniques for assessing micronutrient status. Micronutrients in the physiopathology of chronic disease; sources of micronutrients and factors affecting nutrient bioavailability. Impact of disease and/or genetics on nutrient function and nutrient requirement; role of fortification, enrichment, and/or supplementation of micronutrients in the food supply and on health outcomes. Offered Winter.
Prerequisites: NFS 2130 with a minimum grade of C- and NFS 3230 with a minimum grade of C- and CHM 1240 with a minimum grade of D

NFS 4800 Special Topics in Nutrition and Food Science Cr. 1
New and emerging topics in nutrition and food science or topics presented by a visiting faculty member in his or her research area. Topics to be announced in Schedule of Classes. Offered Intermittently.
Prerequisites: BIO 1050 with a minimum grade of D- or BIO 2870 with a minimum grade of D- and NFS 2030 with a minimum grade of D-
Restriction(s): Enrollment is limited to Undergraduate level students.

NFS 4990 Directed Study Cr. 1-4
Offered Every Term.
Repeatable for 4 Credits

NFS 5130 Food Chemistry Cr. 3
Study of the chemical constituents of foods, their relationship to the biological and physical properties, and overall food quality. Offered Fall, Winter.
Prerequisites: CHM 2220 with a minimum grade of C- (must be taken at WSU) and NFS 2130 with a minimum grade of C-

NFS 5140 Laboratory Techniques in Nutrition and Food Science Cr. 3
Satisfies General Education Requirement: Writing Intensive Competency
Basic modern and classical analytical techniques and instruments in nutrition and food science. Background theory to principles of instrumental assays. Procedures for evaluation of macro and micro food components analysis. Physiological functions relevant to nutrition. Offered Fall.
Prerequisites: CHM 2220 with a minimum grade of D and NFS 2130 with a minimum grade of C- and NFS 2220 with a minimum grade of C-
Course Material Fees: $90

NFS 5170 Nutrition, Physical Activity, and the Brain Cr. 3
Neurobehavioral responses and adaptations to dietary constituents and physical activity/inactivity. Offered Fall.
Prerequisite: NFS 3230 with a minimum grade of C- and (BIO 2870 with a minimum grade of C- or BIO 2600 with a minimum grade of C-) and BIO 3200 with a minimum grade of C- and PSY 3330 with a minimum grade of C-

NFS 5200 Advanced Dietetics Cr. 3
Development and refinement of dietetic practitioner skills through application in critical care and specialty practice areas such as nutrition support, renal, oncology, pulmonary, stress and trauma. Offered Fall.
Prerequisite: NFS 4100 with a minimum grade of B- and NFS 4120 with a minimum grade of B- and NFS 5250 with a minimum grade of B- and NFS 4210 (may be taken concurrently) with a minimum grade of B-
Restriction(s): Enrollment limited to students in a PBC in Dietetics degree.
Course Material Fees: $90
Equivalent: NFS 4200

NFS 5220 Community Nutrition Cr. 2
Introduction to management of nutritional care in healthy and at-risk persons throughout the lifespan. Identifying problems and planning interventions to meet population nutritional problems and to reduce nutrition-related health risks in community settings. Community assessment; organization and function of community agencies; interventions appropriate to small and large groups, including nutrition education. Offered Fall, Spring/Summer.
Prerequisite: NFS 2130 with a minimum grade of C- and NFS 2140 with a minimum grade of C- and NFS 3230 with a minimum grade of C-

NFS 5230 Nutrition and Metabolism Cr. 3
The physio-biochemical properties of nutrients and their bionutritional interrelationships at the cellular and sub-cellular level. Carbohydrate, protein, and lipid metabolism and the role of vitamins and minerals in these metabolic processes. Offered Fall, Winter.
Prerequisites: NFS 3230 with a minimum grade of C-

NFS 5250 Nutrition and Disease Cr. 4
Application of the principles of biochemistry and physiology in the study of nutrient metabolism as altered by disease. The physio-biochemical basis for diet in the treatment of disease. Offered Winter, Spring/Summer.
Prerequisites: NFS 4230 with a minimum grade of C- and NFS 4231 with a minimum grade of C-

NFS 5350 Organization and Management of Food Service Systems Cr. 4
Survey of food service systems; factors affecting their successful operation. Components of quality assurance supporting well-being of target markets. Identification of operative management skills. Offered Fall.
Prerequisite: NFS 2130 with a minimum grade of C- and NFS 2140 with a minimum grade of C- and NFS 3230 with a minimum grade of C- and MGT 2350 with a minimum grade of C-

NFS 5360 Management of Nutritional Care and Services Cr. 3
Application of management theory and principles in the three areas of dietetic practice; career planning and professional role development. Offered Winter.
Prerequisite: NFS 5200 with a minimum grade of B- and NFS 4220 (may be taken concurrently) with a minimum grade of B-
Restriction(s): Enrollment limited to students in a PBC in Dietetics degree.

NFS 5990 Honors Directed Study Cr. 1-4
Offered for undergraduate credit only. Offered Every Term.
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment is limited to students with a major in Nutrition and Food Science Hon.
Repeatable for 6 Credits

NFS 5992 Supervised Field Experience Cr. 2-4
Supervised field experience designed to correlate classroom theory with practical work. Offered Every Term.

NFS 5996 Research in Food Science and Nutrition Cr. 1-4
Research projects under direction of faculty active in research. Offered for undergraduate credit only. Offered Every Term.
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students with a class of Unranked Undergrad, Freshman, Sophomore, Junior or Senior.
Repeatable for 6 Credits

NFS 6000 Nutritional Biochemistry Cr. 3
Biochemical effects of nutrients at cellular and organ levels. Offered for graduate credit only. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.

NFS 6020 Nutrient and Gene Interaction Cr. 3
Introduction to molecular genetics concepts, terminology and molecular methodologies, with emphasis on nutrition and food science. Overview of nutrition and gene interaction in onset and progression of disease, cancer, and aging. Offered for graduate credit only. Offered Every Other Year.
Prerequisites: NFS 5130 with a minimum grade of C- and NFS 5140 with a minimum grade of C- and NFS 5230 with a minimum grade of C-
Restriction(s): Enrollment is limited to Graduate level students.

NFS 6030 Microbiological Safety of Foods Cr. 3
Food-borne microorganisms as causes of human illnesses, including bacteria, mold, viruses and parasites. Microbial toxins and their mode of action. Antimicrobial agents in food. Means of prevention and protection. Offered Fall.
Prerequisites: NFS 4150 with a minimum grade of C- and NFS 5130 with a minimum grade of C-

NFS 6150 Functional Foods for Health Cr. 3
Introduction to functional foods (those with specific health benefits) and nutraceuticals, as well as a variety of functional food ingredients and extracts, their chemical and potential health promoting properties, processing, production, safety and regulation. Offered Winter.
Prerequisite: NFS 2030 with a minimum grade of D- and NFS 2130 with a minimum grade of D- and NFS 3230 with a minimum grade of D-
Restriction(s): Enrollment is limited to Graduate level students.

NFS 6210 Nutrition through the Life Cycle Cr. 3
Biological growth and nutritional requirements from fetal stages of development through aging. Nutritional standards in light of current epidemiological data and scientific research. Offered for graduate credit only. Offered Intermittently.
Prerequisites: NFS 5230 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

NFS 6230 Nutrition and Physical Performance Cr. 3
How nutrients affect physical fitness and physical performance; how physical performance can be improved by adopting optimal dietary practice and how exercise and optimal nutrition can prevent human diseases. Offered Fall.
Prerequisites: NFS 4230 with a minimum grade of C- and NFS 4231 with a minimum grade of C-

NFS 6270 Eating Behavior and Body Weight Regulation Cr. 3
Central and peripheral regulation of food intake, normal and abnormal eating behavior, physiological and psychological regulation of body weight, different models of obesity, etiology of treatment of obesity. Offered Winter.
Prerequisite: BIO 2870 with a minimum grade of C-

NFS 6850 Controversial Issues Cr. 2
Topics to be announced in Schedule of Classes. Offered Fall.
Prerequisite: NFS 5230 with a minimum grade of C-
Restriction(s): Enrollment is limited to students with a major in Nutrition and Food Science or Nutrition and Food Science Hon.

NFS 6860 Controversial Issues in Clinical Nutrition: Dietetics Cr. 2
Current controversial topics; differing points of view will be debated; discussion of modes of communication of nutrition information. Offered Winter.
Prerequisite: NFS 5230 with a minimum grade of D-
Restriction(s): Enrollment is limited to students with a major in Dietetics; enrollment limited to students in the BS in Dietetics or PBC in Dietetics programs.

NFS 7000 Nutritional Metabolomics and Bioinformatics Cr. 3
Introduction to and application of the ""omics"" technologies to nutrition: genomics, proteomics, and metabolomics. Examples and exercises using bioinformatic software for multivariate data analyses. Offered Winter.
Prerequisite: NFS 6000 with a minimum grade of C- and STA 1020 with a minimum grade of C-
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $90

NFS 7060 Research Problems in Nutrition and Food Science Cr. 2
Research orientation: acquaintance with published data, principles of design, methods of collecting data, and basic statistical analysis. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.

NFS 7140 Advanced Laboratory Techniques in Nutrition and Food Science Cr. 4
Laboratory techniques in nutrition and food science research, including: animal experimentation, isotope use and quantitation, radioimmunoassay and receptor assays, atomic absorption; chromatography; microbial assays. Offered Yearly.
Prerequisite: (BMB 5010 with a minimum grade of C- or CHM 5600 with a minimum grade of C-) and NFS 5140 with a minimum grade of C-
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $90

NFS 7170 Nutrition, Physical Activity, and the Brain Cr. 3
Neurobehavioral responses and adaptations to dietary constituents and physical activity/inactivity. Offered Fall.
Prerequisite: NFS 6000 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

NFS 7230 Nutrition and Physical Performance Cr. 3
How nutrients affect physical fitness and physical performance; how physical performance can be improved by adopting optimal dietary practice and how exercise and optimal nutrition can prevent human diseases. Offered Fall.
Prerequisite: NFS 5230 with a minimum grade of C-
Restriction(s): Enrollment is limited to Graduate level students.

NFS 7240 Nutritional Epidemiology Cr. 3
Introduction to epidemiology concepts and terminology. Emphasis on examining the associations between nutrition and chronic disease. Offered Intermittently.
Prerequisites: NFS 2210 with a minimum grade of C-
Restriction(s): Enrollment is limited to Graduate level students.

NFS 7250 Nutrition and Aging Cr. 3
Topics include: conserved pathways determining longevity and the role of nutrition in these pathways; role of metabolic/nutritional factors on longevity and successful aging; premature aging disorders; interventional strategies impacting longevity and health span. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.

NFS 7850 Graduate Seminar Cr. 1
Presentations by graduate students, graduate faculty, and visiting scientists. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Graduate level students.

NFS 7890 Advanced Workshop Cr. 2-4
Application of theoretical principles to selected areas of nutrition and food science. Topics and prerequisites to be announced in Schedule of Classes . Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 8 Credits

NFS 7990 Directed Study Cr. 1-4
Offered for each area of specialization. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 4 Credits

NFS 7991 Lab Rotation Cr. 1
For new graduate students; students spend at least two weeks in all research labs. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.

NFS 7996 Research Cr. 1-8
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 20 Credits

NFS 7999 Master's Essay Direction Cr. 1-3
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students with a class of Candidate Masters.
Repeatable for 3 Credits

NFS 8999 Master's Thesis Research and Direction Cr. 1-8
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students with a class of Candidate Masters.
Repeatable for 8 Credits

NFS 9990 Pre-Doctoral Candidacy Research Cr. 1-8
Research in preparation for doctoral dissertation. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 12 Credits

NFS 9991 Doctoral Candidate Status I: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.

NFS 9992 Doctoral Candidate Status II: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: NFS 9991 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

NFS 9993 Doctoral Candidate Status III: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: NFS 9992 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

NFS 9994 Doctoral Candidate Status IV: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: NFS 9993 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

NFS 9995 Candidate Maintenance Status: Doctoral Dissertation Research and Direction Cr. 0
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $370.26
Repeatable for 0 Credits

NUR - NURSING

NUR 2010 Health Assessment: History Taking and Physical Examination Cr. 3
Foundational learning experiences for understanding and performing the health assessment of the individual; includes systematic history-taking and physical examination. Holistic health assessment from health promotional, cultural, nutritional, mental health, and developmental perspectives. Assessment approaches of various nurse theorists. Offered Fall.
Course Material Fees: $25

NUR 2030 Pathophysiology Related to Nursing Practice Cr. 3
Exploration of processes by which disease occurs, body responses, and effects of diseases on normal physiology. Diseases explored in terms of definition, diagnosis, etiology, epidemiology, clinical manifestations, cultural and socioeconomic factors, and contemporary research. Offered Fall.

NUR 2050 Supportive Measures for Basic Care Needs Cr. 5
Supportive nursing care strategies for individuals in the context of family and community. Emphasis on scientific basis of supportive care, critical thinking and nursing process, development of basic nursing care skills, therapeutic communication, and understanding of cultural context. Offered Fall, Winter.
Prerequisites: NUR 2010 with a minimum grade of C and NUR 2030 with a minimum grade of C and NUR 2060 with a minimum grade of C and May be taken concurrently: NUR 2995 with a minimum grade of C
Course Material Fees: $85

NUR 2060 Nursing Implications of Drug Administration Cr. 3
Concepts of pharmacotherapeutics across the life cycle: theories of drug actions mediating physiological processes, variables affecting drug actions, and unusual and adverse reactions. Development of nursing role incorporating principles of safe, therapeutic, legal, and ethical principles. Psychological and cultural variations addressed. Contemporary research explored. Pharmacological math competency required. Offered Fall.
Prerequisite: BIO 2870 with a minimum grade of C

NUR 2070 Professional Nursing in the Future: Strategies for Health Promotion Cr. 3
Preparation for professional practice; emphasis on developing knowledge and skills for health promotion within the context of groups and the community. Impact of nursing theories and research on practice, directed toward health promotion issues. Strategies for health promotion; focus on group process and teaching/learning. Offered Fall.
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the College of Nursing.

NUR 2995 Foundations of Professional Nursing Cr. 3
Characteristics of nursing as a profession: ethical, legal, and professional governing structures; foundation for effective communication and documentation. Nursing process as it applies to health promotion; problem-based care in the health care arena. The phenomenon of health as experienced by individuals across the lifespan in family, group, and community. Offered Fall.
Prerequisite: PSY 2400 with a minimum grade of C
Restriction(s): Enrollment limited to students in the College of Nursing.

NUR 3005 Integrated Pathophysiology and Pharmacology for Nursing Practice: Advanced Concepts Cr. 4
Alterations in normal physiological functioning that occur as a result of a disease process and integrates concepts of pharmacological mechanisms employed as therapy. Current theories of pathophysiological mechanisms are discussed in-depth. Theories of drug actions, physiological processes mediating drug actions, variables affecting drug actions, and beneficial, unusual and adverse drug therapy responses are also examined. Offered Fall, Spring/Summer.

NUR 3010 Restorative Care of Adults and Elders with Acute Illness Cr. 5
Theory and practice in providing nursing care to adults throughout the lifespan experiencing acute disruptions in living patterns within the context of their families and in a community-based systems of health care. Emphasis on practice within a theoretical framework using research-based interventions. Offered Fall, Winter.
Prerequisite: NUR 2050 with a minimum grade of C and NFS 3230 with a minimum grade of C

NUR 3015 Restorative Care: Psychiatric Mental Health Nursing Across the Lifespan Cr. 5
Nursing care to individuals experiencing emotional crises and/or acute chronic psychiatric illnesses within the context of their families and communities. Biosocial theories of mental health and illness, determinants of mental illness; cultural and socioeconomic factors and psychotherapeutic modalities. Public and private systems of care for mental health promotion, restoration, and rehabilitation. Offered Fall, Winter.
Prerequisite: NUR 2050 with a minimum grade of C
Restriction(s): Enrollment limited to students with a class of Junior or Senior.

NUR 3020 Restorative Care of Adults and Elders with Chronic Illness Cr. 5
Theory and practice in providing nursing care to adults throughout the adult lifespan experiencing chronic disruptions in living patterns within the context of their families in a community based system of healthcare. Offered Winter, Spring/Summer.
Prerequisite: NUR 3010 with a minimum grade of C

NUR 3200 Global Healthcare Cr. 3
Satisfies General Education Requirement: Global Learning Inquiry, Social Inquiry
Explores health care challenges worldwide while examining intercultural beliefs systems. Examines issues related to health disparities among vulnerable populations in urban environments nationally and globally. Students will travel abroad during spring break to experience first-hand the healthcare issues and disparities internationally. Students must have valid passports and pay the Office of Study Abroad required travel fees prior to course start date. Offered Winter.

NUR 3400 Introduction to Nursing Research Cr. 2
Introduction to the research process and research utilization in nursing practice. Research problems, access and retrieval of research literature and databases, reading and critiquing research studies, and individual and organizational strategies to promote research-based practice. Offered Winter, Spring/Summer.
Prerequisite: NUR 2050 with a minimum grade of C

NUR 3405 Introduction to Nursing Research and Evidence-Based Practice Cr. 3
Provides basic information about nursing research problems; principles of evidence-based nursing research, access and retrieval of research literature and databases; reading and critiquing research reports; ethical issues related to research; and individual strategies and organizational mechanisms to promote research-based practice. The research process is examined as a foundation for critical thinking and scholarship. Offered Fall.

NUR 4010 Integrative Care of Children and Their Families Cr. 5
Theory and practice in care of children in various states of health in the context of their families. Emphasis on knowledge of age-appropriate normal biological, physical, psychosocial, cognitive, moral, spiritual, and social development as a basis for implementing health promotion, supportive, and restorative practices with children of all ages in the context of their families in community-based systems of health care. Offered Fall, Spring/Summer.
Prerequisite: NUR 2050 with a minimum grade of C
Restriction(s): Enrollment limited to students with a class of Junior or Senior.

NUR 4020 Integrative Care of the Perinatal Family Cr. 5
Theory and practice in care of the perinatal family: woman, fetus, newborn, and other members from preconception to postpartum and newborn in the first month of life. Emphasis on integrative care: health assessment, risk assessment, health promotion, supportive and restorative care of the woman and the family. Exploration of ethical and consumer movement effects on prenatal care. Offered Fall, Spring/Summer.
Prerequisite: NUR 2050 with a minimum grade of C-
Restriction(s): Enrollment limited to students with a class of Junior or Senior.

NUR 4040 Leadership and Management in Nursing Practice Cr. 4
Theory and skill development in leadership processes in nursing practice. Assessment of a health care system, analysis of nurses' roles, organizational design systems theory, leadership and management theory, culture, decision-making, delegation, conflict management, and planned change. Offered Fall.

NUR 4050 Theory of Caring for Complex, Critically Ill Patients Cr. 3
An opportunity for the student to integrate knowledge of anatomy, physiology, pathophysiology and pharmacology in the care of patients with complex acute illnesses. Fosters the advancement of critical reasoning, clinical knowledge, and clinical judgment through case studies, lecture and group discussions. Offered Fall, Winter.
Prerequisite: NUR 3010 with a minimum grade of C and NUR 3020 with a minimum grade of C

NUR 4060 Synthesis of Core Nursing Knowledge Cr. 5
Precepted, integrative clinical immersion course that integrates the knowledge of ethics, standards, and expectations of professional nursing roles with an emphasis on critical thinking. The student will have an opportunity to synthesize foundational concepts and master competencies and skills of the advanced beginner in professional nursing. The focus is on integration of professional nursing behaviors within a complex organizational environment, and synthesis of core nursing knowledge. Offered Fall, Winter.
Prerequisites: May be taken concurrently: NUR 4040 and May be taken concurrently: NUR 4120 and May be taken concurrently: NUR 4050

NUR 4120 Community Focused Nursing Practice Cr. 5
Analysis of role of professional nurse in community settings: caring for individuals and groups from diverse cultural backgrounds at various developmental stages and at any point on the health-illness continuum. Offered Every Term.
Restriction(s): Enrollment limited to students with a class of Senior.

NUR 4300 Nursing Informatics Cr. 3
Opportunity for nursing students or registered nurses to develop knowledge and skills in nursing informatics. Offered Fall, Spring/Summer.

NUR 4505 Professional Nursing in the Future: Current Issues for Professional Practice RN-BSN Cr. 3
Examination and discussion of issues related to professional nursing practice (RN to BSN). The current professional practice of nurses transitioning to a BSN encompasses a role change and exposure to political processes (micro to national issues), bioethical issues in U.S. health care, and educational pathways in nursing and related policy implications, the importance of interprofessional education for nurses, and the various levels of legal responsibility for the practicing professional nurses. These discussions will assist the new graduate in becoming an informed and politically active professional, an ethically sound provider and consumer of health care services, as well as an informed citizen capable of providing leadership to those who are not health care professionals. Offered Fall.

NUR 4600 Gerontological Nursing Perspectives in Health and Illness Cr. 3
Knowledge from the fields of gerontology and geriatrics used to enhance the student's nursing perspective when providing nursing care to meet the complex health care needs of healthy and frail older adults and their families. As students learn about the physical and psychosocial problems encountered with aging, they will be engaged in discussions about the contributions that can be brought forth from nursing and multiple disciplines to enhance the health of older adults. Offered Winter.

NUR 4800 Transcultural Health Through the Life Cycle Cr. 3
Satisfies General Education Requirement: Foreign Culture, Global Learning Inquiry
Transcultural health differences and similarities in selected Western and non-Western cultures, from birth through old age. Use of theories and research methods from the health and social sciences and humanities in study and analysis of different cultures. Offered Fall, Spring/Summer.
Restriction(s): Enrollment limited to students with a class of Junior or Senior.

NUR 4990 Directed Study Cr. 1-4
Offered Every Term.
Restriction(s): Enrollment limited to students in the College of Nursing.

NUR 5993 Writing Intensive Course in Nursing Cr. 0
Satisfies General Education Requirement: Writing Intensive Competency
Successful completion of this course satisfies the University's General Education Writing Intensive Course requirement. Prior to graduation, all students must demonstrate the ability to communicate effectively with specialized or professional audiences by successfully completing the writing requirements. Students must be able to analyze, synthesize, and evaluate current information from literature on the their topical area. Offered for undergraduate credit only. Offered Every Term.
Prerequisites: AFS 2390 with a minimum grade of C or ENG 2390 with a minimum grade of C or ENG 3010 with a minimum grade of C or ENG 3020 with a minimum grade of C or ENG 3050 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students.

NUR 6510 Health Economics, Policy, and Professional Issues for APNs Cr. 3
Examination of the major health policy and professional issues relevant to the advanced-practice nurse. Students will be assisted in the synthesis of theoretical and pragmatic aspects of issues of concern in order to develop confidence in their skills and establish an APN practice. Offered for graduate credit only. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students.

NUR 7000 Statistics in Nursing Cr. 3
Introduction to statistical analysis in nursing research. Topics include: levels of measurement, statistical inference, selected descriptive and inferential statistics for parametric and nonparametric conditions, and selected statistics used to summarize results from multiple studies (i.e., meta-analytic statistics). Offered Spring/Summer.
Prerequisite: NUR 3400 with a minimum grade of B
Restriction(s): Enrollment is limited to Graduate level students.

NUR 7015 Research for Evidence-Based Nursing I Cr. 4
Identification, review, and evaluation of existing research and other relevant evidence for application in nursing. Application of basic research knowledge and research utilization principles to begin synthesizing the adequacy of the evidence for application in nursing. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the MS in Nursing program.

NUR 7018 Research for Evidence-Based Nursing II Cr. 3
Continuation of NUR 7015. Designed to advance the understanding of evidence-based nursing and to advance the ability to synthesize existing evidence in a nursing area. Based on this synthesis, students will be able to develop evidence-based nursing protocols/guidelines, or proposals for obtaining additional evidence if current evidence is insufficient. Offered Winter, Spring/Summer.
Prerequisite: NUR 7015 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the MS in Nursing program.

NUR 7025 Community Based Participatory Research Cr. 3
Explores common issues and methods involved in conducting community based participatory research (CBPR). Students engage in building the necessary skills and learn how to collaborate across interdisciplinary perspectives to engage in research that leads to community change, the improvement of public health, and enhances the quality of life. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Adv Public Health Nurse.

NUR 7030 Advanced Nursing Assessment Cr. 4
Development of advanced physical psychosocial assessment skills. Development of critical thinking skills in relation to differential diagnosis (medical and nursing) that are required in the performance of advanced nursing practice. Offered Spring/Summer.
Prerequisite: PTH 7500 with a minimum grade of C and NUR 7555 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $100

NUR 7035 Family Centered Health Promotion and Risk-reduction Cr. 3
The purpose of this course is to facilitate student's understanding and application of family systems approach to the theoretical foundation for health promotion and risk reduction across the lifespan. The emphasis is on family theory, health promotion theories and research to promote and preserve wellness lifestyles in client populations using epidemiological principles, disease risk appraisal and reduction and other tools. Offered Winter, Spring/Summer.
Restriction(s): Enrollment is limited to Graduate level students.

NUR 7040 Comprehensive Community Assessment Cr. 5
Provides opportunities for students to develop knowledge and skills essential to conducting comprehensive community assessments. Students engage with interprofessional team members, community agencies, and diverse populations to conduct a comprehensive assessment. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Adv Public Health Nurse.

NUR 7055 Health Promotion and Prevention with Diverse Populations Cr. 5
Focuses on the development of advanced public health nursing knowledge and collaborative practice skills essential to integrating theoretical frameworks, comprehensive community assessments, and diverse perspectives when designing and implementing health promotion and prevention programs. Offered Spring/Summer.
Restriction(s): Enrollment is limited to Graduate level students.

NUR 7065 Program Planning, Quality Improvement and Evaluation Residency Cr. 5
Focuses on the development of knowledge, skills and leadership strategies essential for advanced public health nurses to transform complex systems, and to improve the health of communities and diverse populations. The course emphasizes the application of concepts and theories germane to planning, improving, and evaluating health programs to advance public health, and enhance quality of life. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.

NUR 7105 Theoretical Foundations for Nursing Cr. 3
Theory course: foundations for nurses in practice and leadership roles. Discussion of diverse perspectives that influence knowledge development in nursing, including, systems, communication, developmental, health promotion, stress and coping theories. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the MS in Nursing program.

NUR 7130 APN: Management of Oncology, Mental Health, and Lifestyle Change Cr. 6
Development of clinical expertise required to co-manage the care of persons with illness trajectories related to oncology, hematology, mental health and wound management. Offered Winter.
Prerequisite: NUR 7030 with a minimum grade of B and PTH 7500 with a minimum grade of B and NUR 7555 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

NUR 7140 APN: Management of Cardiopulmonary and Renal Problems Cr. 6
Development of clinical nursing expertise required to co-manage the care of persons with illness trajectories related to pulmonary, cardiovascular and renal systems. Offered Winter.
Prerequisite: NUR 7030 with a minimum grade of B and NUR 7555 with a minimum grade of C and PTH 7500 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

NUR 7155 Primary Prevention Strategies Cr. 8
Synthesis of theoretical, scientific, and clinical knowledge to support health promotion, health protection, and disease prevention advanced practice in Adult-Gerontology Primary Care Nursing. Offered Fall.
Prerequisites: NUR 7030 with a minimum grade of C and NUR 7555 with a minimum grade of C and NUR 7890 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the MS in Nursing program.

NUR 7165 Clinical Decision Making in Adult-Gerontology Cr. 8
Critical thinking and analysis of managerial decisions in primary care of adults and older adults. Offered Winter.
Prerequisite: NUR 7155 with a minimum grade of B and PTH 7500 with a minimum grade of C and NUR 7555 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the MS in Nursing program.

NUR 7175 Adult-Gerontology Primary Care Management and Evaluation Cr. 8
Synthesis of community-based adult-gerontology primary care nursing within the framework of evaluation. Offered Fall, Winter.
Prerequisite: NUR 7165 with a minimum grade of B and PTH 7500 with a minimum grade of C and NUR 7555 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the MS in Nursing program.

NUR 7200 Advanced Neonatal Pharmacology Cr. 3
Basic concepts of pharmacology; application and integration of content to advanced practice nursing with high-risk neonate. Offered Spring/Summer.
Restriction(s): Enrollment is limited to Graduate level students.

NUR 7207 Advanced Pediatric Pharmacology Cr. 3
Preparation of advanced practice nurses to apply concepts of pediatric pharmacology when assessing, managing and treating the pediatric patient in a variety of environments, including acute/critical and primary care. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students.

NUR 7222 Leadership in Health Policy, Ethics and Change Cr. 3
Examines health systems and health policy within evolving sociopolitical contexts from a national and international perspective. Content includes human diversity, social issues, systems theory, health systems analysis, ethics, health policy analysis, and policy formulation. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Graduate level students.

NUR 7225 Pathophysiology, Clinical Care and Management I Cr. 8
Managing health care needs of women, neonates, and/or children; conceptual basis for advanced nursing. Offered Fall.
Prerequisite: NUR 2010 with a minimum grade of B and NUR 3400 with a minimum grade of B and NUR 7030 with a minimum grade of B
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Nursing.

NUR 7226 Pathophysiology, Clinical Care and Management II Cr. 8
Development and demonstration of a model of advanced practice nursing or nurse-midwifery. Offered Winter.
Prerequisite: NUR 7225 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Nursing.

NUR 7227 Pathophysiology, Clinical Care and Management III Cr. 8
Synthesis of advanced practice nursing or nurse-midwifery model for care of women, neonates, and/or children. Offered Spring/Summer.
Prerequisite: NUR 7226 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Nursing.

NUR 7370 APN: Management of Neurological, Endocrine, and Musculoskeletal Problems Cr. 6
Assisting advanced practice nurses in development of clinical expertise required to co-manage persons with problems related to neurology, endocrinology, and musculoskeletal disorders. Offered Winter.
Prerequisite: NUR 7030 with a minimum grade of B and NUR 7555 with a minimum grade of C and PTH 7500 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

NUR 7415 Physical and Psychosocial Issues in Aging Cr. 3
Analysis of predominant physical and psychosocial aspects of aging encountered by elderly clients. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Nursing.

NUR 7444 Advanced Physiology and Pathophysiology Across the Lifespan for APRNs Cr. 4
General physiology and pathologic principles for promoting health and treating disease across the lifespan. This course builds upon previous courses in anatomy and physiology and is a core competency that provides the basis for critical thinking in the role as an advanced practice nurse. Further, it provides an in-depth study of principles of advanced physiology and pathophysiology applicable across the lifespan, including enhancement of knowledge of human physiology of organ systems as well as the etiology, developmental considerations, pathogenesis, morphology, and clinical manifestations of common disease processes. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.

NUR 7515 End-of-Life Issues Cr. 3-4
Physical, spiritual, legal, economic, political, cultural, and ethical issues at the end of life, examined as stories about individuals, families, and communities. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: ANT 7430, SOC 7020

NUR 7555 Pharmacotherapeutics for Advanced Practice Cr. 3
General pharmacotherapy; critical evaluation of drug therapy; critique and prescription of appropriate therapeutic regimens. Offered Winter.
Prerequisites: NUR 2060 and PTH 7500
Restriction(s): Enrollment is limited to Graduate level students.

NUR 7605 Psychopharmacology for Advanced Practice Nursing Cr. 5
Focus on pharmacokinetics and pharmacodynamics of psychotropic and neurologic medications used across the life span. Emphasis on efficacy of the medications, individualized selections, and titration of dosages. Offered Fall.
Prerequisites: May be taken concurrently: NUR 7555 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Nursing.

NUR 7710 Theoretical Perspectives of Teaching in Nursing Cr. 3
Theories of learning and teaching, critical thinking, value development, and psychomotor skill development as basis for teaching in nursing. Teaching methods in nursing for classroom and clinical practice. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.

NUR 7720 Evaluation and Testing in Nursing Education Cr. 3
Development of educational program in nursing. Test construction, clinical and performance evaluation, and grading. Offered Every Other Winter.
Restriction(s): Enrollment is limited to Graduate level students.

NUR 7730 Practice Teaching in Nursing Cr. 3
Application experience in educational setting appropriate to student's needs and goals. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.

NUR 7840 Advanced Practice Nursing with Individuals/Communities Cr. 6
Opportunities for psychiatric nursing and community health nursing advanced practice students to integrate content about individuals and communities within cultural contexts. Offered Fall.
Prerequisite: NUR 7030 with a minimum grade of B and NUR 7555 with a minimum grade of C and PTH 7500 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Nursing.

NUR 7855 Advanced Practice Nursing with Groups Cr. 6
Opportunities for psychiatric nursing and community health nursing advanced practice students to integrate content about groups within cultural contexts. Offered Winter.
Prerequisite: NUR 7030 with a minimum grade of B and NUR 7555 with a minimum grade of C and PTH 7500 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Nursing.

NUR 7860 Advanced Practice Nursing with Families Cr. 6
Opportunities for advanced practice psychiatric nursing and advanced practice community health nursing students to integrate content about families within cultural contexts. Offered Spring/Summer.
Prerequisite: NUR 7030 with a minimum grade of B and NUR 7555 with a minimum grade of C and PTH 7500 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Nursing.

NUR 7865 Foundations of Complementary and Alternative Medicine (CAM) Cr. 3
Philosophical, historical, physiological basis of CAM; use in advanced practice nursing. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Nursing.

NUR 7870 Complementary Therapy Research: Understanding the Evidence Cr. 4
Focus on the research related to complementary therapies allowing students to explore what has already been established, limitations and benefits, and future directions and initiatives that are needed to support CAM therapies for integrative health care use. Offered Fall, Winter.
Prerequisite: NUR 7865 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

NUR 7875 Complementary Alternative Medicine Therapies: Clinical Intervention II Cr. 5
Additional in-depth information on mind-body techniques, herbs/supplements, aromatherapy and energy healing; focus on physiological, psychological, and spiritual aspects of integrative care. Offered Fall, Winter.
Prerequisite: NUR 7870 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

NUR 7890 Special Topics in Nursing Cr. 1-8
Exploration and analysis of topics significant to the development of nursing science and professional practice. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Graduate level students.

NUR 7990 Directed Study in Nursing Cr. 1-8
Individually designed courses of study in nursing. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 16 Credits

NUR 7998 Master's Research Project Cr. 1-3
Scientific investigation of nursing phenomena using all steps of the research process; includes written report. Offered Every Term.
Prerequisite: NUR 7010 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

NUR 8011 Scientific Writing in Nursing Cr. 1
Seminar to assist students in becoming more effective scientific writers in order to be successful nurse scholars and scientists. Students will conduct a mini-review of the literature related to a specific aspect of urban health. After identifying a precise statement to focus their review, students will synthesize the literature and write iterative drafts of their review. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Nursing; enrollment limited to students in a Doctor of Philosophy degree.

NUR 8012 Philosophical Basis of Nursing Cr. 3
Philosophical underpinnings of the nursing discipline in order to assist students in understanding the tripartite role of a Ph.D.-prepared nurse as scholar, scientist, and steward of the discipline. Students will explore the interaction of historical, theoretical, and philosophical contexts within which nursing science has developed, discuss the role each has played in the process of developing nursing as an academic research discipline, and examine these for congruence with contemporary thinking. Emphasis is on analyzing epistemological and ontological assumptions underlying the discipline, the science, and the practice of nursing. Debates arising from philosophy and the history of science and nursing inform discussions about the nature of science and nursing's past, present, and future directions in theory and knowledge development. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Nursing; enrollment limited to students in a Doctor of Philosophy degree.

NUR 8014 Health Interventions Cr. 3
Evaluation of intervention research to create nursing knowledge to improve health outcomes for urban populations. Students will examine select intervention designs to evaluate the effectiveness of therapeutic interventions related to their phenomenon of interest. The course also addresses important considerations of measurement, feasibility, fidelity, and data safety monitoring plans when conducting intervention research. Ethical concerns related to intervention research are discussed. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students.

NUR 8020 Theoretically-Based Nursing Inquiry Cr. 3
Synthesis and application of knowledge from theoretical and empirical literature to a phenomenon of interest. Assistance to students in translating philosophical and theoretical perspectives into research methodologies. Concept analysis and construction, theory development, and relationships among conceptual frameworks, theories, and empirical referents are critically analyzed. The course will enable students to develop or further explicate a theoretical framework to guide a study within an emerging program of research in urban health. Offered Spring/Summer.
Prerequisites: NUR 8012 and NUR 8040 or NUR 8060
Restriction(s): Enrollment is limited to Graduate level students.

NUR 8040 Quantitative Research Methods Cr. 3
Non-experimental and experimental designs used in health-care research. Students will examine common threats to study validity and discuss methods to address these threats. Students also will develop the methods section of a quantitative proposal that addresses a researchable problem in nursing and health care. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students.

NUR 8050 Introduction to Advanced Quantitative Methods: Big Data and Mixed Methods Cr. 3
ntroduces advanced quantitative methods that may be used in the students' future program of research. Students will explore the methods associated with triangulation of data (i.e. mixed methods) and big data science, and the course will address the epistemological underpinnings of these two methods. Students will examine key design, sampling, analysis and management techniques required for using mixed methods or large data sets. Emphasis will be on exploring pragmatic considerations that contribute to the efficacy of projects using these different methods. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Interdisciplinary or Nursing; enrollment limited to students in a Doctor of Philosophy degree.

NUR 8060 Qualitative Research Methods Cr. 3
Relevance of qualitative approaches to the advancement of knowledge and practice in nursing and healthcare. An overview of qualitative traditions will be covered. Sampling, measurement, data collection, data management, and analysis will be discussed relative to various qualitative approaches. Strategies to maintain data quality and integrity are also discussed. Offered Spring/Summer.
Restriction(s): Enrollment is limited to Graduate level students.

NUR 8065 Health Economics and Policy Evaluation of Nursing Care for Vulnerable Populations Cr. 3
The intersection of vulnerable populations and their health care needs will be explored from a health economics and health policy approach. The course will promote discourse on the economic structure of the American health system as it relates to disparities. Further, it will explore the economic analytical evaluation of health care through current economic models of analysis for nursing care. Offered Spring/Summer.
Prerequisites: FPH 7240 with a minimum grade of C and NUR 8630 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

NUR 8070 Advanced Qualitative Methods Cr. 3
Focuses on analysis and critique of various traditions within qualitative methods phenomenology, grounded theory, case study) and an in-depth examination of various methodological approaches and technical skill related to participant recruitment, ethical issues, data collection, data management and analysis, and interpretation of for qualitative methods. Students must have a data set for analysis, even if they are in the process of collecting data or receive permission to use a faculty member's data set. Offered Winter.
Prerequisites: NUR 8060 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

NUR 8210 Health Determinants & Disparities Cr. 3
Examination of multiple determinants of health and issues related to health disparities among vulnerable populations in urban environments. Course content addresses biophysiological, genetic, behavioral, cultural, environmental (social and physical), economic, and health policy factors that affect health and contribute to health disparities. It prepares students to generate questions of concern to health and health outcomes; and to collaborate in interdisciplinary research teams regarding determinants of health and health disparities. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.

NUR 8604 Health Analytics and Data Management Cr. 4
This course provides the student with a foundation to evaluate the psychometric properties of outcome measures; to evaluate group differences for clinical programs, quality/process improvement, or practice change projects; and to synthesize results across qualitative and quantitative studies. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.

NUR 8610 Statistical Analysis I Cr. 3
Application of selected univariate statistical procedures commonly used in nursing and health research. Topics will include descriptive and inferential statistics such as measures of central tendency and variability, sampling, estimation, hypothesis testing, analysis of variance, regression and correlation, analysis of covariance, analysis of frequency and nonparametric procedures. Emphasis is on the utilization and interpretation of basic univariate procedures applied in nursing and health research. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Nursing.

NUR 8612 Statistical Analysis II Cr. 3
Advanced multivariate statistical procedures. The course will cover a range of advanced quantitative techniques, such as discriminant analysis, logistic regression analysis: dichotomous response, logistic regression analysis: polytomous response, principle component analysis, factor analysis, cluster analysis and survival analysis. The course also addresses statistical analysis for advanced quantitative designs such as analysis of variance for some unbalanced designs, analysis of variance for some fixed-, random-, and mixed-effects models, nested or hierarchical designs, multivariate repeated-measures analysis of variance and power analysis and sample size determination. An introduction to psychometric theory for instrument development also will be addressed. Offered Winter.
Prerequisites: NUR 8610
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Nursing.

NUR 8615 Informatics Innovations in Nursing Cr. 3
Development of understanding of concepts in health care informatics relevant to the advanced practice nurse. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.

NUR 8620 Foundations of Nursing as a Discipline Cr. 3
Critical examination of factors that have contributed to the development of the discipline of nursing. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Doctor of Nursing Practice program.

NUR 8625 Evidence Based Nursing Practice: Theoretical and Methodological Issues Cr. 3
Scientific foundation for integration of evidence based knowledge into clinical practice. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students.

NUR 8630 Conceptual Methodologies in Health Policy Leadership and Ethics Cr. 3
Basic understanding of health policy and ethical theories and practice, skills in policy development and analysis, joined with ethical analysis. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.

NUR 8635 Clinical Practice Outcomes: Evaluation and Benchmarking Methodologies Cr. 3
Foundational knowledge and skills necessary to measure clinical outcomes and quality in advanced clinical nursing practice. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.

NUR 8640 Health Information Technology Cr. 3
Current and future advances in health information technologies as they apply to hospital or community health systems. Offered Fall.
Prerequisite: NUR 8615 with a minimum grade of B-
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Nursing.

NUR 8650 Advanced Professional Leadership Cr. 3
Preparation of advanced nurses and others to effectively transition into the role of leader and change agent. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Nursing.

NUR 8670 APN Specialty I: Foundations Cr. 3-4
Foundational knowledge and skills necessary to manage health care needs across the developmental spectrum, while providing the conceptual basis for advanced practice nursing (APN). Focus on refinement and further development of basic clinical diagnostic skills, including physical examination, diagnosis, management, interventions, and outcomes assessment. Offered Fall.
Prerequisites: NUR 7030 with a minimum grade of C and NUR 7555 with a minimum grade of C and PTH 6860 with a minimum grade of C or NUR 7200 with a minimum grade of C and PTH 7500 with a minimum grade of C or NUR 7205 with a minimum grade of C or NUR 7203 with a minimum grade of C
Corequisite: NUR 8675
Restriction(s): Enrollment is limited to Graduate level students.

NUR 8675 APN Specialty Clinical I: Foundations Cr. 4-5
Clinical (lab) component focuses on the continued application of specialty knowledge foundational to advanced practice nursing or nurse-midwifery. Strengthening and further development of the nurse practitioner/nurse-midwifery management model, roles of advanced practice nurses, and interventions to promote and/or restore health within each specialty area. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.

NUR 8680 APN Specialty II: Intermediate Cr. 3-4
Specialty seminar focuses on strengthening and further development of the application of the specialty knowledge of acute care, children, community, neonates, primary care, psychiatric and women's health within a broad social context. Students manage the care of clients in their designated specialty area while assessing for deviations from normal which may result in collaboration or referral. Development of the advanced practice role, provision of a supportive clinical practice environment, and examination of factors that contribute to the vulnerability of clients across the lifespan. Offered Winter.
Prerequisites: NUR 8675 with a minimum grade of C
Corequisite: NUR 8685
Restriction(s): Enrollment is limited to Graduate level students.

NUR 8685 APN Specialty Clinical II: Intermediate Cr. 4-5
Clinical (lab) component focuses on the continued application of specialty knowledge foundational to advanced practice nursing. Strengthening and further development of the nurse practitioner/nurse-midwifery management model, roles of advanced practice nurses, and interventions to promote and/or restore health within each specialty area. Offered Winter.
Prerequisite: NUR 8670 with a minimum grade of C and NUR 8680 (may be taken concurrently) with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

NUR 8690 APN Specialty III: Advanced Cr. 2-4
Synthesis of an advanced practice nursing model for care across the developmental spectrum. Health promotion, development, and long-term care of vulnerable populations within a broad social context. Specialty seminar component focuses on strengthening and applying specialty knowledge of acute care, children, neonates, primary care, and women's health within a broad social context. Offered Winter.
Prerequisites: NUR 8680 with a minimum grade of C and NUR 8685 with a minimum grade of C
Corequisite: NUR 8695
Restriction(s): Enrollment is limited to Graduate level students.

NUR 8695 APN Specialty Clinical III: Advanced Cr. 4-6
Students are to concentrate with hands on patient care in the role of a provider. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students.

NUR 8890 Special Topics in Nursing Cr. 1-8
Exploration and analysis of topics significant to the development of nursing science and professional practice at the doctoral level. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in a Doctor of Philosophy degree.
Repeatable for 8 Credits

NUR 8895 Population Health for Nursing Cr. 3
Introduction to the basic concepts of epidemiology as tools that will promote understanding of the complexity of local, national, and global healthcare systems. Emphasis is on the use of epidemiologic reasoning in deriving inferences about the etiology of health outcomes from population data and in guiding the design of health service programs. Discussion of behavioral and contextual factors that converge to impact the health of individuals, families, and communities in relationship to strategies that advanced practice nurses use to mitigate these factors. Students will be challenged to develop approaches for using epidemiology to influence, create, and lead change. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.

NUR 8990 Directed Study Cr. 1-8
Individually designed courses in nursing for doctoral students whose needs and interests are not met in scheduled classes. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.

NUR 8999 Master's Thesis Research and Direction Cr. 1-8
Offered Every Term.
Prerequisite: NUR 7010 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students with a class of Candidate Masters.
Repeatable for 8 Credits

NUR 9500 DNP Project Practicum I Cr. 2
Provides guided study to identify role components for the advanced practice nurse pursuing a Doctor of Nursing Practice (DNP) degree. The student will begin exploration and identification of a specific practice topic area for the DNP Project. The scholarly practicum gives the student hands on experience in her/his chosen area of clinical inquiry. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Nursing.

NUR 9505 DNP Project Practicum II Cr. 2
Requires the student to engage faculty, community and/or healthcare organization leaders for project proposal planning of an evidenced-based DNP Project based on the specific practice topic identified. The student must establish the state of the science upon which the DNP Project will be based. Offered Every Term.
Prerequisites: NUR 8625 with a minimum grade of C and NUR 9500 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Nursing.

NUR 9510 DNP Project Practicum III Cr. 2-4
Builds on the knowledge and skills developed in the previous courses: DNP Project Practicum I and II. Students, working with their DNP Project Chair and relevant leaders, will implement their projects. Offered Winter, Spring/Summer.
Prerequisites: NUR 9500 with a minimum grade of C and NUR 9505 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Nursing.

NUR 9520 DNP Project Cr. 4-6
Builds on the knowledge and skills developed in the previous courses: DNP Project Practicum I, II and III. Provides the doctorate nursing practice student with the opportunity to demonstrate their ability to analyze, synthesize and apply clinical inquiry knowledge and competencies through written and public presentation. Offered Every Term.
Prerequisites: NUR 9500 with a minimum grade of C and NUR 9505 with a minimum grade of C and NUR 9510 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the College of Nursing.

NUR 9990 Pre-Doctoral Candidacy Research Cr. 1-8
Research in preparation for doctoral dissertation. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 12 Credits

NUR 9991 Doctoral Candidate Status I: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.

NUR 9992 Doctoral Candidate Status II: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: NUR 9991 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

NUR 9993 Doctoral Candidate Status III: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: NUR 9992 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

NUR 9994 Doctoral Candidate Status IV: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: NUR 9993 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

NUR 9995 Candidate Maintenance Status: Doctoral Dissertation Research and Direction Cr. 0
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $370.26
Repeatable for 0 Credits

OT - OCCUPATIONAL THERAPY

OT 3000 Introduction to Occupation, Health, and Wellness Cr. 3-4
Introduction to the processes and procedures utilized by the occupational therapist: observation, interview, communication and skills gained through interaction with normal individuals from infancy through senescence. Offered Fall.
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.
Course Material Fees: $50

OT 3070 Occupational Therapy Research I Cr. 3
Basic concepts and principles of research, terminology used to describe research, and effective use of research information for evidence-based practice in occupational therapy. Didactic and experiential components. Offered Spring/Summer.
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

OT 3200 Therapeutic Media Cr. 2-3
Performance, adaptation and utilization of processes involved in selected creative and manual tasks and activities which have therapeutic value. Principles and methods of teaching appropriate to the therapist. Offered Winter.
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.
Course Material Fees: $25

OT 3300 Movement Assessment and Intervention Cr. 3
Lecture and laboratory on human movement concepts prerequisite to the understanding of occupational therapy procedures applicable to patients with physical or sensory-integrative dysfunction. Offered Fall.
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.
Course Material Fees: $30

OT 3400 Health Conditions I: Physical Disabilities Cr. 3-4
A series of interdisciplinary presentations on the clinical manifestations and management of selected problems due to disease states or injury; includes etiology, assessment, course and medical specialty management of the problems. Offered Winter.
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.
Course Material Fees: $5

OT 4050 Life Occupations I Cr. 3
Examination of areas of occupation: daily living activities, work/school, play, leisure and social participation. Tools and techniques for analysis of occupations; development of intervention strategies; effective documentation. First of two courses. Offered Spring/Summer.
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

OT 4280 Occupational Therapy Assessments Cr. 5
Tools and techniques for conducting assessments; documenting, observing, and interviewing. Course format: didactic, case presentation, and experiential. Offered Winter.
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

OT 4400 Health Conditions II: Mental Health Cr. 3-4
Major categories of psychiatric conditions, young adult through elderly. Diagnostic criteria; treatment strategies in hospital and community settings with fieldwork requirements. Guest lecturers from medical and community settings. Second of two courses. Offered Winter.
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.
Course Material Fees: $20

OT 4600 Group Dynamics Cr. 5
Experiential approach to learning group dynamics and achieving skills necessary for conducting effective therapeutic groups for a variety of settings. Development of self-awareness and social skills necessary in building practical group skills. Level I fieldwork. Offered Fall.
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.
Course Material Fees: $50

OT 4990 Directed Study Cr. 1-2
Offered Every Term.
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.
Repeatable for 5 Credits

OT 5000 Interventions and Outcomes I Cr. 5
Occupation-based therapeutic activities, intervention strategies, documentation skills, and discharge planning that promote client-centered outcomes; focus is on children, through the teen years. First of two courses. Offered Fall.
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.
Course Material Fees: $67

OT 5040 Environmental Influence on Disability and Health Cr. 3
Application of OT practice in health care delivery. Critical examination of physical, social, economic and political environments on the health, wellness, and disability of individuals, populations, and the health care delivery system. Offered for graduate credit only. Offered Fall.
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

OT 5050 Life Occupations II Cr. 3
Role of leisure in health, wellness, prevention and rehabilitation; focus: across the life span. Explores and develops assessment tools, treatment plans for diverse populations; includes experiential learning. Second of two courses. Offered Fall.
Prerequisite: OT 4050
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.
Course Material Fees: $50

OT 5080 Occupational Sci Cr. 2
Offered Spring/Summer.
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment is limited to students with a major, minor, or concentration in Occupational Therapy.

OT 5300 Surface Anatomy for Occupational Therapy Cr. 1
Students will: 1) practice and develop palpation skills, 2) locate bony landmarks, muscles, tendons, joints, ligaments, nerves, and arteries on the living human body, 3) appreciate differences of a variety of tissue types. Offered Fall.
Prerequisites: May be taken concurrently: OT 5505 and May be taken concurrently: OT 5510

OT 5400 Neurosciences for Health Care Professionals Cr. 3
Study of the human central nervous system; emphasis on sensory and motor systems and structures that contribute to normal movement. Offered Winter.
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.
Course Material Fees: $50
Equivalent: PT 5400

OT 5500 Aging: From Community to Longterm Care Cr. 3
The goal of the course is to strengthen knowledge and skills in aging and geriatric rehabilitation. Content includes: successful aging, age-related health conditions, gerontology research for OTs, at risk older adults, assisted living and long term care, policy and legislation. Offered Fall.
Restriction(s): Enrollment is limited to Graduate or Undergraduate level students; enrollment is limited to students with a major in Occupational Therapy.

OT 5505 Clinical Applications of Human Anatomy Cr. 3
Knowledge of basic human anatomy for students in health science professional programs; foundation for further study in clinical sciences. Offered Fall.
Restriction(s): Enrollment is limited to students with a major, minor, or concentration in Occupational Therapy or Physical Therapy.
Equivalent: PT 5505

OT 5510 Clinical Applications of Human Anatomy: Laboratory Cr. 1-2
Examination of prosections, dissection of human cadavers; didactic study. Offered Fall.
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.
Course Material Fees: $200
Equivalent: PT 5510

OT 5650 Pathophysiology for Health Sciences Cr. 3
Fundamental knowledge of the nature of disease for the health sciences student; physiologic and morphologic changes accompanying disease processes; mechanisms of repair and recovery. Offered Winter.
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.
Equivalent: PT 5650, RT 5650

OT 5993 Writing Intensive Seminar in Occupational Therapy Cr. 0
Satisfies General Education Requirement: Writing Intensive Competency
Disciplinary writing assignments under the direction of a faculty member. Must be selected in conjunction with designated corequisite; consult Schedule of Classes for corequisites available each term. Satisfies University General Education Writing Intensive Course in the Major requirement. Required for all majors. Offered Every Term.
Prerequisite: OT 3000 (may be taken concurrently) with a minimum grade of D-
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

OT 6000 Interventions and Outcomes II Cr. 5
Occupation-based therapeutic activities, intervention strategies, documentation skills, and discharge planning that promote client-centered outcome; focus is on young adult, adult years, life span. Second of two courses. Offered Winter.
Prerequisite: OT 5000
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

OT 6070 Occupational Therapy Research II Cr. 3
Application of research principles and methods to solving occupational therapy problems. Offered Fall.
Prerequisite: OT 3070
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.
Course Material Fees: $15

OT 6090 Directed Research Cr. 1-4
Opportunity to conduct supervised research and to participate in research activities of a mentor. Offered Every Term.
Prerequisite: OT 6070
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.
Repeatable for 8 Credits

OT 6230 Motor Control Cr. 3
Current theories of motor control and motor learning; recovery of function and normal movement across the lifespan. Offered Winter.
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

OT 6320 Patient Perspectives of Health, Illness and Culture Cr. 2
People from various cultures (religious, ethnic, sexual orientation, disability, chronic illness, economic status) discuss in small groups how these cultures influence living with a chronic illness. Students also discuss readings on health culture and keep a journal on their course experience. Offered Spring/Summer.
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.
Equivalent: PPR 6300

OT 7120 Topics in Assistive Technology Cr. 3
Theories of assistive technology; their application in health care and community settings. Offered Spring/Summer.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

OT 7200 Occupational Therapy Practice in Aging Cr. 3
Covers the concepts and the process of aging and the role of occupational therapy with adults impacted by changing physical health and cognitive capacities and environments. Focuses on the effects of major late life transitions including, for example, retirement from paid employment, driving cessation, household downsizing and caregiving. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

OT 7300 Professional Lit Cr. 3
Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

OT 7500 Occupational Therapy Synthesis Cr. 3
Synthesizes learning from all previous coursework while preparing the student to take the National Board Certification of Occupational Therapy (NBCOT) examination and business and management fundamentals. This course will include blended learning methodology to enhance learning and peer interaction. Students will complete a review of previously learned content and apply that content into practical clinical scenarios and gain knowledge to successfully pass the NBCOT exam. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.
Repeatable for 9 Credits

OT 7700 Research Dissemination Cr. 3
Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

OT 7750 Professional Field Experience Cr. 1-4
Supervised placement in area of specialization. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

OT 7800 Occupational Therapy Capstone. Cr. 3
Offered Spring/Summer.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Occupational Therapy.

OT 7898 Level II Fieldwork A: Medical Cr. 8
Supervised field work experience in affiliated health care agencies. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

OT 7899 Level II Fieldwork B: Community Cr. 8
Supervised field work experience in affiliated health care agencies.
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

OT 7990 Directed Study Cr. 1-3
Opportunities for study and experience in areas of special interest in occupational therapy. Written report and oral presentation required.
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.
Repeatable for 5 Credits

OT 7999 Masters Essay Dir Cr. 1-2
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students with a class of Candidate Masters; enrollment limited to students in the Pharmacy and Health Sciences.

OT 8990 Masters Project Dir Cr. 1-5
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

OT 8999 Master's Thesis Research and Direction Cr. 1-8
Offered Every Term.
Prerequisite: OT 7700
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students with a class of Candidate Masters; enrollment limited to students in the Pharmacy and Health Sciences.
Repeatable for 8 Credits

PAA - PATHOLOGISTS' ASSISTANT

PAA 5020 Applied General Pathology Cr. 3
Fundamental principles and theories applied to general pathology with special emphasis on disease processes and mechanisms found in adult and pediatric pathology. Offered Fall.
Corequisite: PAA 7250
Restriction(s): Enrollment is limited to students with a major in Pathologists'Assistant Program.

PAA 5050 Clinical Terminology and Methodology for the Pathologists' Assistant Cr. 3
Clinical and medical terminology specific to the pathologists' assistant along with associated methodologies used in surgical and autopsy pathology in the second year of the program. Introduction to laboratory human organ system grossing methodologies. Offered Winter.
Prerequisite: PAA 7060 with a minimum grade of C and PAA 7061 with a minimum grade of C
Restriction(s): Enrollment is limited to students with a major in Pathologists'Assistant Program.
Course Material Fees: $250

PAA 5051 Clinical Terminology and Methodology for the Pathologists' Assistant: Laboratory Cr. 2
The course is designed to familiarize students with surgical procedures, the most common surgical specimens received at the bench, and the manner in which such specimens are grossed, inked, sectioned, and submitted to histology. The use of simulation laboratory sessions for practice of grossing techniques and methodologies will emphasize the step-wise grossing, safety, and dictation of given pathological specimens. Offered Winter.
Prerequisite: PAA 7060 with a minimum grade of C and PAA 7061 with a minimum grade of C
Restriction(s): Enrollment is limited to students with a major in Pathologists'Assistant Program.

PAA 5100 Medical Photography and Techniques in Pathology Cr. 2
Theory of the behavior of light and selection of appropriate lenses; principles of exposure, color, and filters; macro- and microphotography. Adjustment of clinical photographs and student photographs corrected by Adobe Photoshop Professional resulting in a student Eportfolio. Offered Spring/Summer.
Restriction(s): Enrollment is limited to students with a major in Pathologists'Assistant Program.
Course Material Fees: $100

PAA 5200 Medical Microbiology for Technical Professionals: Pathologists' Assistant Cr. 3
Infectious diseases affecting major organ systems of the body encountered by the pathologists' assistant. Clinical case study analysis with student presentations. Offered Winter.
Restriction(s): Enrollment is limited to students with a major in Pathologists'Assistant Program.

PAA 6060 Human Embryology and Pediatric Pathology Cr. 3
Embryological basis of pediatric and childhood diseases along with adult presentations. Human embryological correlations to clinical settings: case study analysis specific to the pathologists' assistant and clinical evaluation of pediatric pathology. Recognition of anatomical presentations with embryological development in normal and diseased states. Offered Winter.
Prerequisite: PAA 5020 with a minimum grade of C and PAA 7060 with a minimum grade of C
Restriction(s): Enrollment is limited to students with a major, minor, or concentration in Pathologists'Assistant Program.
Course Material Fees: $100

PAA 6150 Histochemistry for the Pathologists' Assistant Cr. 4
Study of techniques specific to the Pathologists' Assistant involved in the preparation of tissues prior to microscopic examination and processing inclusive of embedding, sectioning, preparing frozen sections and performing routine and special stain on a variety of tissues. Offered Spring/Summer.
Prerequisites: PAA 6560 with a minimum grade of C
Restriction(s): Enrollment is limited to students with a major in Pathologists'Assistant Program.
Course Material Fees: $200

PAA 6420 Laboratory Management and Quality Management in Anatomic Pathology Cr. 3
Interpersonal and technical management techniques for the clinical and anatomic pathology laboratory settings. Quality management techniques, policies, protocols and best practices for the pathologists' assistant. Safety mandates and protocols as applied to anatomic and surgical pathology. Discussion and analysis of governmental mandates covering laboratory improvement (CLIA). Offered Winter.
Restriction(s): Enrollment is limited to students with a major in Pathologists'Assistant Program.

PAA 6560 Human Histology and Clinical Correlations Cr. 4
Characteristics and identification of human tissue microanatomy. Functional interpretation of human microstructure. Examine and study prepared, strained tissue sections from a variety of organ sections both normal and abnormal allowing for clinical correlations in patient case presentations. Offered Fall.
Restriction(s): Enrollment is limited to students with a major in Pathologists'Assistant Program.
Course Material Fees: $100

PAA 7060 Human Anatomy and Physiology for Pathologists' Assistants Cr. 3
Detailed comprehensive review of human anatomy and physiology as it pertains to the pathologists' assistant practice. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Pathologists'Assistant Program.
Course Material Fees: $350

PAA 7061 Human Anatomy and Physiology for the Pathologists' Assistant: Laboratory Cr. 1
Comprehensive examination of anatomical organs and organ systems through the use of human cadaver prosections, 3D models, computer software applications, medical imaging, and clinical correlations as it pertains to the pathologists' assistant scope of practice. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Pathologists'Assistant Program.

PAA 7200 Introduction to Autopsy Techniques and Forensic Pathology Cr. 3
Comprehensive review of general and specialized techniques for performing postmortem examinations in both the hospital and medical examiner settings, with emphasis on the external examination, evisceration, and block dissection of the adult, perinatal, and pediatric decedent as it pertains to specific forensic pathology cases and presentations. Offered Spring/Summer.
Prerequisites: PAA 7060 with a minimum grade of B
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Pathologists'Assistant Program.
Course Material Fees: $300
Equivalent: MS 4200

PAA 7210 Introduction to Autopsy Techniques and Forensic Pathology: Laboratory Cr. 1
Comprehensive review of general and specialized techniques for performing postmortem examinations in both the hospital and medical examiner settings with emphasis on the external examination, evisceration, and block dissection of the adult, perinatal, and pediatric decedent. Focus on developing techniques for the external examination of adult and pediatric cadaveric specimens, toxicology retrieval, evisceration techniques, and appropriate block dissection methodology and procedures. Offered Spring/Summer.
Prerequisites: PAA 7060 with a minimum grade of B and PAA 7061 with a minimum grade of B
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Pathologists'Assistant Program.

PAA 7250 Clinical Academic Pathology I Cr. 3
Systemic pathologies affecting the following organ and organ systems: white blood cells, lymph nodes, spleen and thymus, red blood cells and bleeding disorders, peripheral nerve and skeletal muscles, CNS, the skin, and the bones, joints and soft tissue tumors. Concepts of molecular diagnostics are integrated when appropriate. Offered Fall.
Corequisite: PAA 5020
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Pathologists'Assistant Program.

PAA 7251 Clinical Academic Pathology II Cr. 3
Continuation of PAA 5020 and PAA 7250. Systemic pathologies affecting the following organ and organ systems: the blood vessels and heart, the lung, head, and neck, the gastrointestinal tract, liver and gallbladder, and the eye. Concepts of molecular diagnostics are integrated when appropriate. Offered Winter.
Prerequisite: PAA 7060 with a minimum grade of B and PAA 7250 with a minimum grade of B
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Pathologists'Assistant Program.

PAA 7252 Clinical Academic Pathology III Cr. 3
Continuation PAA 7250 and 7251. Systemic pathologies affecting the following organ and organ systems: the kidney, the lower urinary tract and male genital system, the female genital tract, the breast, the endocrine system and the pancreas. Concepts of molecular diagnostics are integrated when appropriate. Offered Spring/Summer.
Prerequisites: PAA 5020 with a minimum grade of C and PAA 7250 with a minimum grade of C and PAA 7251 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Pathologists'Assistant Program.

PAA 7420 Future Trends in Pathology Practice and Education Methodology Cr. 2
Group discussion of trends associated with healthcare, patient care, technology, legal issues, education methodology, licensure and accreditation issues; medical ethics, safety, medicolegal, and quality management in anatomic, surgical and autopsy pathology are covered. Presentations lead to recommendations for future best practices in a variety of pathology settings. Students present research findings via PowerPoint and in a seminar format. Offered Spring/Summer.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Pathologists'Assistant Program.

PAA 7500 Clinical Autopsy Pathology Cr. 1
Clinical autopsy procedures, including data retention, dissection techniques, selection of tissue for microscopic examination, and methods of body restoration prior to release in clinical facilities. Course addresses NAACLS competency levels for medical autopsy techniques (adult) and medical autopsy techniques (pediatric). Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Pathologists'Assistant Program.
Course Material Fees: $100

PAA 7550 Clinical Histopathologic Technique Cr. 2
Organization of a histology laboratory, instrumentation and safety; advanced staining techniques including immunohistochemistry; frozen sections, tumor triage and proper handling of specimens for processing and assessment of clinical cases. Offered Fall.
Prerequisite: PAA 6560 with a minimum grade of C and PAA 6150 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Pathologists'Assistant Program.
Course Material Fees: $100

PAA 7600 Clinical Pediatric Pathology Cr. 3
Embryological basis of pediatric and childhood diseases along with adult presentations. Human embryological correlations to clinical settings: case study analysis specific to the pathologists' assistant; clinical evaluation of pediatric pathology. Recognition of anatomical presentations with embryological development in normal and diseased states. Offered Fall.
Prerequisite: PAA 5050 with a minimum grade of C and PAA 6061 with a minimum grade of C and PAA 7060 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Pathologists'Assistant Program.

PAA 7650 Surgical Pathology I Cr. 5
Application of principles, theories, and clinical practices related to grossing (simple) surgical dissections. Addresses NAACLS competency levels associated with adult and pediatric surgical pathology techniques. Offered Fall.
Prerequisite: PAA 5050 with a minimum grade of C and PAA 7060 with a minimum grade of C and PAA 7250 with a minimum grade of C and PAA 7251 with a minimum grade of C and PAA 7252 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Pathologists'Assistant Program.
Course Material Fees: $100

PAA 7651 Surgical Pathology II Cr. 5
Application of principles, theories, and clinical practices related to gross (simple and complex) surgical dissections. Addresses NAACLS competency levels associated with adult and pediatric surgical pathology techniques. Offered Winter.
Prerequisite: PAA 5050 with a minimum grade of C and PAA 7060 with a minimum grade of C and PAA 7250 with a minimum grade of C and PAA 7251 with a minimum grade of C and PAA 7252 with a minimum grade of C and PAA 7650 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Pathologists'Assistant Program.
Course Material Fees: $100

PAA 7652 Surgical Pathology III Cr. 5
Application of principles, theories, and clinical practices related to gross (simple and complex) surgical dissections. Addresses NAACLS competency levels associated with adult and pediatric surgical pathology techniques. Offered Spring/Summer.
Prerequisite: PAA 5050 with a minimum grade of C and PAA 7060 with a minimum grade of C and PAA 7250 with a minimum grade of C and PAA 7251 with a minimum grade of C and PAA 7650 with a minimum grade of C and PAA 7651 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Pathologists'Assistant Program.
Course Material Fees: $100

PAA 7700 Forensic Pathology and Techniques Cr. 5
Forensic autopsy techniques specific to the Pathologists' Assistant and compliant with NAACLS competency levels associated with adult and pediatric cases; forensic toxicology specimen collection and processing; forensic techniques associated with determining cause manner and mechanism of death; techniques of photographic record keeping and body release. Offered Winter.
Prerequisite: PAA 6061 with a minimum grade of C and PAA 7060 with a minimum grade of C and PAA 7200 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Pathologists'Assistant Program.
Course Material Fees: $100

PAA 7750 Clinical Laboratory Management in Anatomic Pathology Cr. 2
The clinical application of interpersonal and technical management techniques for the clinical and anatomic pathology laboratory settings. Quality management techniques, policies, protocols and best practices for the pathologists' assistant. Safety mandates and protocols as applied to anatomic and surgical pathology. Discussion and analysis of governmental mandates covering laboratory improvement (CLIA). Offered Winter.
Prerequisite: PAA 6420 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

PAA 7800 Clinical and Forensic Photography Cr. 2
Techniques required to photographically record gross and microscopic specimens as presented from surgery and in surgical grossing, as well as from the forensic setting resulting in a PA student E-portfolio. Offered Spring/Summer.
Prerequisite: PAA 5100 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Pathologists'Assistant Program.
Course Material Fees: $100

PAA 7890 Seminar in Anatomic and Surgical Pathology Cr. 2
Clinically based capstone seminar course. Invited clinical specialists in anatomic and surgical pathology address contemporary issues in pathology allowing dialogue between pathologists' assistant students and pathologists. Offered Spring/Summer.
Prerequisite: PAA 7650 with a minimum grade of C and PAA 7651 with a minimum grade of C
Corequisite: PAA 7652
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Pathologists'Assistant Program.

PAS - PHYSICIAN ASSISTANT STUDIES

PAS 7000 Anatomy for Physician Assistants I Cr. 2
Structural and functional anatomy of the human body relevant to physician assistant responsibilities. All major regions of body will be studied. Regional dissections; programmed instruction; lectures and demonstrations with emphasis on use of gross anatomy in physical diagnosis. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences; enrollment is limited to students with a major in Physician Assistant Studies.
Course Material Fees: $250

PAS 7001 Anatomy for Physician Assistants II Cr. 1
Continuation of PAS 7000. Structural and functional anatomy of the human body relevant to physician assistant responsibilities. All major regions of body will be studied. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences; enrollment is limited to students with a major in Physician Assistant Studies.

PAS 7010 Clinical Medicine I Cr. 3
Introduction to etiology, manifestation, diagnosis, prevention and treatment of disease; includes: all major organ systems and disease entities. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences; enrollment is limited to students with a major in Physician Assistant Studies.
Course Material Fees: $30

PAS 7020 Clinical Medicine II Cr. 3
Continuation of PAS 7010. Offered Yearly.
Prerequisite: PAS 7010 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences; enrollment is limited to students with a major in Physician Assistant Studies.
Course Material Fees: $30

PAS 7030 Clinical Medicine III Cr. 4
Continuation of PAS 7020. Offered Yearly.
Prerequisite: PAS 7020 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences; enrollment is limited to students with a major in Physician Assistant Studies.
Course Material Fees: $30

PAS 7040 Patient Evaluation I Cr. 2
The elicitation and recording of complete medical history, including a complete and comprehensive physical examination. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences; enrollment is limited to students with a major in Physician Assistant Studies.
Course Material Fees: $324

PAS 7050 Patient Evaluation II Cr. 2
Continuation of PAS 7040. Offered Yearly.
Prerequisite: PAS 7040 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences; enrollment is limited to students with a major in Physician Assistant Studies.
Course Material Fees: $222

PAS 7060 Patient Evaluation III Cr. 3
Continuation of PAS 7050. Offered Yearly.
Prerequisite: PAS 7050 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences; enrollment is limited to students with a major in Physician Assistant Studies.
Course Material Fees: $383

PAS 7070 Health Care Issues I Cr. 1
Specialized topics in the care of patients, medical research, as well as issues concerning the delivery of health care to the public. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences; enrollment is limited to students with a major in Physician Assistant Studies.
Course Material Fees: $25

PAS 7080 Health Care Issues II Cr. 1
Continuation of PAS 7070. Offered Yearly.
Prerequisite: PAS 7070 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences; enrollment is limited to students with a major in Physician Assistant Studies.
Course Material Fees: $25

PAS 7090 Health Care Issues III Cr. 1
Continuation of PAS 7080. Offered Yearly.
Prerequisite: PAS 7080 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences; enrollment is limited to students with a major in Physician Assistant Studies.
Course Material Fees: $25

PAS 7100 Pharmacology I Cr. 2
Principles of pharmacologic action followed by review of major therapeutic agents in each clinical area. Major systems of the body as related to drugs and diseases. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.
Course Material Fees: $15

PAS 7110 Pharmacology II Cr. 2
Continuation of PAS 7100, Offered Yearly.
Prerequisite: PAS 7100 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.
Course Material Fees: $30

PAS 7500 Pathophysiology I Cr. 1
Dynamics of alterations in function in response to disease. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences; enrollment is limited to students with a major in Physician Assistant Studies.

PAS 7510 Pathophysiology II Cr. 1
Continuation of PAS 7500. Offered Yearly.
Prerequisite: PAS 7500 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences; enrollment is limited to students with a major in Physician Assistant Studies.

PAS 7520 Pathophysiology III Cr. 1
Continuation of PAS 7510. Offered Winter.
Prerequisite: PAS 7510 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences; enrollment is limited to students with a major in Physician Assistant Studies.

PAS 8000 Internal Medicine Rotation: Practicum Cr. 4
Advanced training in internal medicine with particular emphasis on both inpatient and outpatient primary care. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.
Course Material Fees: $393

PAS 8010 Obstetrics and Gynecology Rotation: Practicum Cr. 2
Advanced training in the problems associated with gestation, birth, and women's health. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.
Course Material Fees: $34

PAS 8020 Emergency Medicine Rotation: Practicum Cr. 2
Advanced training in all aspects of the practice of urgent and emergency medicine. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.
Course Material Fees: $34

PAS 8030 Pediatrics Rotation: Practicum Cr. 2
Advanced training in the care of children from birth through adolescence. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.
Course Material Fees: $34

PAS 8040 Psychiatry Rotation: Practicum Cr. 2
Advanced training in the care of patients with psychiatric disorders. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.
Course Material Fees: $34

PAS 8050 Surgery Rotation: Practicum Cr. 4
Examination of patients with surgical disorders, arrangement and participation in selected surgical procedures and recommendations for further evaluation and care. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.
Course Material Fees: $40

PAS 8060 Family Medicine Rotation: Practicum Cr. 6
Advanced training in outpatient evaluation of pediatric and adult patients with emphasis on family health, lifespan, and coordination of the health care team. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.
Course Material Fees: $60

PAS 8070 Preceptorship Cr. 2
Rotation specialized to the primary care needs of individual physician assistant students in last phase of clinical training. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.
Course Material Fees: $279

PCS - PEACE AND CONFLICT STUDIES

PCS 2000 Introduction to Peace and Conflict Studies Cr. 3
Introduction to the peace and conflict studies co-major. Survey, ranging from biology and conflict among animals to disputes involving the individual, the family, the neighborhood and region, the nation and global or international community. Definitions and approaches to peace. (Some sections linked to Peace and Justice Learning Community.) Offered Yearly.
Equivalent: HIS 2500, PS 2820

PCS 2010 Topics in Peace and Conflict Studies Cr. 1-4
Special topics relating to peace and conflict studies. Offered Every Term.
Equivalent: HIS 2520, PS 2830
Repeatable for 12 Credits

PCS 2020 Science, Technology, and War Cr. 4
Modern weapons, nuclear and otherwise are becoming increasingly available and dangerous; people with grievances seem eager to use them. Science and technology, as well as constraints of bureaucracy and society underpin weapons development and use, as technologies affect prospects and results of war and peace. History of humanity and its tools of war. Offered Yearly.
Equivalent: HIS 2510, PHY 2020, PS 2440

PCS 2050 The Study of Non-Violence Cr. 3
Satisfies General Education Requirement: Diversity Equity Incl Inquiry
Intellectual and social roots of non-violence and the practice of non-violence in various societies and people's life styles. Historical and political forces and movements related to non-violence. (Some sections linked to Peace and Justice Learning Community.) Offered Every Term.
Equivalent: HIS 2530, PS 2550, SOC 2050

PCS 5000 Dispute Resolution Cr. 3
Overview of the processes and actors in the field of dispute resolution including negotiation, mediation, arbitration, and conciliation. Offered Yearly.
Equivalent: CRJ 5994, PS 5890, PSY 5710

PCS 5010 Community or International Internship Cr. 3
Internship in dispute resolution, research, social service or international agencies in Detroit area, nationally, or abroad. Offered Every Term.
Prerequisites: PCS 2000 with a minimum grade of D-

PCS 5100 Advanced Special Topics Cr. 3-4
Topics may include: study of negotiating organizations and processes, advanced theory to practice applications, in-depth specialization. Offered for undergraduate credit only. Offered Intermittently.

PCS 5500 Ethnicity Cr. 4
Offered Yearly.
Equivalent: AFS 5740, PS 5740

PCS 5999 Special Readings/Research Cr. 1-4
Intensive study with faculty member on peace-related topic; may include study abroad projects. For co-majors and non-majors. Offered Every Term.
Repeatable for 4 Credits

PCS 6000 Senior Seminar in Peace and Conflict Studies Cr. 3
Students work with faculty on a semester research or creative project relevant to concepts studied in the program; serves as capstone program evaluative course. Offered for undergraduate credit only. Offered Every Term.
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students with a class of Senior.

PCS 6050 Topics in Peace, Security and Non-Violence Cr. 3
Various graduate-level topics in Peace and Security Studies. Offered for graduate credit only. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students.

PCS 6100 Introduction to Graduate Peace and Security Studies Cr. 3
Survey of the peace and security studies fields at the graduate level. Offered for graduate credit only. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: PS 6100

PCS 7100 Peace Making: Regional, Technological, Transnational Perspectives Cr. 3
The prerequisites for peaceful and secure borders and peace settlements. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students.

PCS 7800 Graduate Practicum in Peace and Security Studies Cr. 3-4
Field work or applied research in Peace and Security Studies. Offered Every Term.
Prerequisite: PCS 6100 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

PH - PUBLIC HEALTH

PH 2100 Introduction to Public Health Cr. 3
Satisfies General Education Requirement: Life Sciences, Natural Scientific Inquiry
Provides both an overview of the principles and practice of public health and basic information needed to understand and analyze a variety of individual-level and population-level health problems. This course is intended for students with no previous course work in public health. Offered Every Term.

PH 3050 Mental Health and Crime Cr. 3
Provides a comprehensive overview of the issues and challenges located at the intersection of mental health/illness and the criminal justice system. Attention will be focused on a range of topics, including, but not limited to, the definition of mental illness, deinstitutionalization and criminalization of the mentally ill, the impact of mental illness on criminal proceedings, treatment/intervention effectiveness, and the reentry/reintegration of mentally ill individuals. Offered Fall.
Equivalent: CRJ 3050

PH 3100 Social and Behavioral Aspects of Public Health Cr. 3
Satisfies General Education Requirement: Social Inquiry, Social Sciences
Examines the social and behavioral aspects of health, illness, and health care, and help students develop a basic understanding of the societal factors that influence health status and public health interventions. Offered Every Term.

PH 3200 Introduction to Biostatistics Cr. 4
Provides an introduction to statistical methods used in biological and medical research and covers elementary probability theory, basic concepts of statistical inference, sampling theory, regression and correlation methods, analysis of variance, and study design. In addition, the course will examine statistical applications in biomedicine, epidemiology, public health and the life sciences. Offered Every Term.
Prerequisites: PH 2100 with a minimum grade of C and MAT Permit to Reg ACT/SAT with a test score minimum of 4 or Math Permit to Reg - L1-L4 with a test score minimum of 4 or STA 1020 with a minimum grade of C or MAT 1800 with a minimum grade of C or MAT 2010 with a minimum grade of C or MAT 2020 with a minimum grade of C or STA 2210 with a minimum grade of C

PH 3300 Epidemiology Cr. 4
Introduces the basic concepts of epidemiology as applied to public health problems. Emphasis is placed on the principles and methods of epidemilogic investigation, including the appropriate summaries, displays, and analysis of data, and the use of classical statistical and other methodological approaches to describe the health of populations. Offered Every Term.
Prerequisites: PH 2100 with a minimum grade of C and MAT Permit to Reg ACT/SAT with a test score minimum of 4 or Math Permit to Reg - L1-L4 with a test score minimum of 4 or STA 1020 with a minimum grade of C or MAT 1800 with a minimum grade of C or MAT 2010 with a minimum grade of C or MAT 2020 with a minimum grade of C or STA 2210 with a minimum grade of C

PH 3410 Global Health Cr. 3
Satisfies General Education Requirement: Global Learning Inquiry, Social Inquiry, Social Sciences
Introduces students to problems of disease and disorder worldwide and looks at various efforts to define and address these problems through a social science perspective. Offered Winter.
Equivalent: ANT 3410, GLS 3410

PH 3500 Environmental Health Cr. 3
Using a public health perspective, the course will provide students with an overview of the key areas of environmental health, and it will cover factors associated with the development of environmental health problems. Students will gain a system-level understanding of the interaction of individuals and communities with the environment, the potential impact of environmental agents on population, and specific applications of public health concepts to environmental health. Offered Every Term.

PH 3550 Geography and Public Health Cr. 3
Introduces the field of medical geography, or the study of geographic aspects of health and disease. Students will gain an understanding of how geography as a discipline contributes to an understanding health and health care, and how social and economic contexts impact health. Students will utilize mapping techniques to examine the spatial patterns of disease and risk factors that may contribute to disease. Offered Yearly.
Equivalent: US 3550

PH 3600 Special Topics in Public Health Cr. 3
Topics may include but are not limited to an examination of health in families, health in the workplace, health across the life course, health of urban communities, community health interventions, access to health care, and health services administration. Offered Intermittently.
Repeatable for 6 Credits

PH 3900 LGBT Health Cr. 3
Centers on LGBT voices and takes an intersectional socioecological approach to exploring social determinants of health, and a range of health outcomes and challenges in LGBT communities; and the implications for public health research, policy, and practice to improve LGBT health. Introduces students to key conceptual frameworks for understanding LGBT health across the lifespan and promoting health equity. Offered Yearly.
Prerequisite: PH 2100 with a minimum grade of C or PH 3100 with a minimum grade of C or GSW 2500 with a minimum grade of C or GSW 2600 with a minimum grade of C or SOC 1020 with a minimum grade of C or SOC 2202 with a minimum grade of C or SOC 2300 with a minimum grade of C
Equivalent: SOC 3900

PH 4050 Crime and Public Health Cr. 3
Introduces students to the interface between public health and criminal justice in the United States, focusing on different aspects of the relationship. It will first describe the newly emerged epidemiological criminology, and then analyze a variety of topics on crime and public health, including, but not limited to, the health of incarcerated populations, the health of criminal justice professionals, health consequences of crime and risk behaviors, public health and law, gangs and gang violence, mental health and substance abuse, environmental justice, and public health interventions with criminal justice populations. Offered Winter.
Equivalent: CRJ 4050

PH 4100 Public Health Principles and Practice Cr. 2
This required course examines practice-based approaches to improve public health. The focus will be on learning methods for community health improvement, from assessment to finding and implementing evidence-based public health interventions. Offered Every Term.
Prerequisites: PH 2100 with a minimum grade of C and PH 3100 with a minimum grade of C and PH 3200 with a minimum grade of C and PH 3300 with a minimum grade of C
Corequisite: PH 4150
Restriction(s): Enrollment limited to students with a class of Senior; enrollment is limited to students with a major in Public Health or Public Health Honors.

PH 4150 Public Health Practicum Cr. 2
This required course is a practice-based experience that provides a hands-on, diverse approach to learning about public health practice. Students will complete a 90-hour practicum experience in a local community organization or other public health setting. Offered Every Term.
Prerequisites: PH 2100 with a minimum grade of C and PH 3100 with a minimum grade of C and PH 3200 with a minimum grade of C and PH 3300 with a minimum grade of C
Corequisite: PH 4100
Restriction(s): Enrollment limited to students with a class of Senior; enrollment is limited to students with a major in Public Health or Public Health Honors.

PH 4400 Methodological Approaches in Public Health Cr. 4
This course provides students with a review of methodological approaches in public health. Students will analyze the benefits and costs of each methodological approach, and how to best apply each method in real-world settings. Students will also critically assess scientific literature in core areas of public health. The content and assignments for this course are designed to prepare students for the Capstone Course (PH 5100). Offered Every Term.
Prerequisites: PH 2100 with a minimum grade of C and PH 3100 with a minimum grade of C and PH 3200 with a minimum grade of C and PH 3300 with a minimum grade of C
Restriction(s): Enrollment is limited to students with a major in Public Health or Public Health Honors.

PH 4600 Special Topics in Health Disparities Cr. 3
Topics may include but are not limited to an examination of health disparities by race or ethnicity, gender, income, age, nationality, or residential location. Offered Intermittently.
Repeatable for 6 Credits

PH 4900 Directed Study in Public Health Cr. 1-3
Course requirements include directed readings and participation in public health research, under the direct supervision of a faculty member affiliated with the Bachelors in Public Health program. Offered Every Term.
Repeatable for 3 Credits

PH 5100 Capstone Course in Public Health Cr. 4
Satisfies General Education Requirement: Writing Intensive Competency
This capstone course provides the culminating curricular experience for students enrolled in Wayne State's Bachelor's program in Public Health. A major part of the final course grade is based on the student's completion of an individualized capstone project. Offered Every Term.
Prerequisites: PH 2100 with a minimum grade of C and PH 3100 with a minimum grade of C and PH 3200 with a minimum grade of C and PH 3300 with a minimum grade of C and PH 4100 with a minimum grade of C and PH 4150 with a minimum grade of C and PH 4400 with a minimum grade of C

PHA - PHARMACY

PHA 4105 Pathophysiology 1 Cr. 3
Advanced pathophysiologic concepts affecting the adult human using a research-based, system-focused approach, including etiology, pathogenesis and clinical manifestations of commonly found/seen altered health states. Offered Fall.
Restriction(s): Enrollment limited to students in the Doctor of Pharmacy program.

PHA 4125 Drug Literature Evaluation and Foundations of Research Cr. 3
Critical evaluation of the medical literature and provision of foundational research skills. Offered Fall.
Restriction(s): Enrollment limited to students in the Doctor of Pharmacy program.

PHA 4205 Pathophysiology II Cr. 2
Advanced pathophysiologic concepts affecting the adult human using a research-based, system-focused approach, including etiology, pathogenesis and clinical manifestations of commonly found/seen altered health states. Offered Winter.
Prerequisite: PHA 4105
Restriction(s): Enrollment limited to students in the Doctor of Pharmacy program.

PHA 4225 Principles of Pharmacotherapy I: Respiratory, Gastroenterology, Allergy, Ophthalmology Cr. 4
Principles of medicinal chemistry, pharmacology, and therapeutics as applied to the treatment of gastroenterologic, pulmonary, ophthalmologic, and allergic disorders, and basic self-care. Offered Winter.
Prerequisite: PHA 4105
Restriction(s): Enrollment limited to students in the Doctor of Pharmacy program.
Course Material Fees: $70

PHA 4235 Pharmacotherapeutic Problem Solving I: Respiratory, Gastroenterology, Allergy, Ophthalmology Cr. 2
Problem-based learning focusing on pathophysiology, pharmacology, medicinal chemistry and pharmacotherapeutics of respiratory,gastroenterologic, allergic, and ophthalmologic disorders, and basic self-care. Offered Winter.
Restriction(s): Enrollment limited to students in the Doctor of Pharmacy program.
Course Material Fees: $85

PHA 4395 Research Scholars: Research Development Cr. 2
Development of basic foundations of research practices for students pursuing the Research Scholars path. Offered Spring/Summer.
Restriction(s): Enrollment limited to students in the Doctor of Pharmacy program.

PHA 5110 Pharmacogenomics Cr. 2
Principles and applications of human genetics and genomics in drug therapy optimization, patient care, and counseling. Offered Spring/Summer.
Restriction(s): Enrollment is limited to Professional level students; enrollment limited to students with a class of PharmD Yr 2 or PharmD Yr 3.

PHA 5115 Principles of Pharmacotherapy II: Cardiology, Nephrology Cr. 5
Principles of medicinal chemistry, pharmacology, and therapeutics as applied to the treatment of cardiovascular and renal disease. Offered Fall.
Restriction(s): Enrollment limited to students in the Doctor of Pharmacy program.

PHA 5125 Principles of Pharmacotherapy III: Endocrinology, Gynecology, Urology Cr. 4
Principles of medicinal chemistry, pharmacology, and therapeutics as applied to the treatment of endocrinologic, gynecologic, and urologic disorders. Offered Fall.
Restriction(s): Enrollment limited to students in the Doctor of Pharmacy program.

PHA 5135 Pharmacotherapeutic Problem Solving II :Nephrology, Cardiology, Endocrinology, Gynecology, Urology Cr. 2
Problem-based learning focusing on pathophysiology, pharmacology, medicinal chemistry and pharmacotherapeutics of nephrologic, cardiologic, endocrinologic, and gynecologic conditions.
Restriction(s): Enrollment limited to students in the Doctor of Pharmacy program.

PHA 5195 Research Scholars: Research Conduct Elective Cr. 1-4
Conducting research project for students pursuing the Research Scholars path. Offered Every Term.
Prerequisite: PHA 4395
Restriction(s): Enrollment limited to students in the Doctor of Pharmacy program.
Repeatable for 4 Credits

PHA 5215 Principles of Pharmacotherapy IV: Infectious Diseases Cr. 4
The chemistry, pharmacology, and toxicology of anti-infective agents and the pathophysiology, microbiology, and therapeutics of infectious diseases. Offered Winter.
Restriction(s): Enrollment limited to students in the Doctor of Pharmacy program.

PHA 5225 Principles of Pharmacotherapy V: Neurology, Psychiatry Cr. 4
Medicinal chemistry, pharmacology and therapeutics of neurologic and psychiatric disorders. Offered Winter.
Restriction(s): Enrollment limited to students in the Doctor of Pharmacy program.
Course Material Fees: $70

PHA 5235 Pharmacotherapeutic Problem Solving III: Infectious Diseases, Neurology, Psychiatry Cr. 2
Problem-based learning focusing on pathophysiology, pharmacology, medicinal chemistry and pharmacotherapeutics of infectious, neurologic, and psychiatric diseases. Offered Winter.
Restriction(s): Enrollment limited to students in the Doctor of Pharmacy program.
Course Material Fees: $85

PHA 5280 Principles of Pharmacotherapy VIII Cr. 2-3
Pharmacotherapeutic principles of special populations, men's and women's health, patient problem solving. Offered Winter.
Corequisite: PHA 5275
Restriction(s): Enrollment is limited to Professional level students; enrollment limited to students in the Pharmacy and Health Sciences.

PHA 6125 Principles of Pharmacotherapy VI: Oncology, Advanced Immunology Cr. 3
Principles of medicinal chemistry, pharmacology, and therapeutics as applied to the treatment of oncologic and immunologic disorders Offered Fall.
Restriction(s): Enrollment limited to students in the Doctor of Pharmacy program.
Course Material Fees: $70

PHA 6135 Pharmacotherapeutic Problem Solving IV: Oncology and Advanced Pharmacotherapeutics Cr. 3
Problem-based learning focusing on pathophysiology, pharmacology, medicinal chemistry and pharmacotherapeutics of neoplastic disorders and advanced pharmacotherapeutics. Offered Fall.
Restriction(s): Enrollment limited to students in the Doctor of Pharmacy program.

PHA 6235 Pharmacotherapeutic Problem Solving V: Drug Induced Diseases Cr. 2
Problem-based learning focusing on pathophysiology, pharmacology, medicinal chemistry, and pharmacotherapeutics of drug-induced diseases. Offered Winter.
Restriction(s): Enrollment limited to students in the Doctor of Pharmacy program.
Course Material Fees: $85

PHC - PHARMACOLOGY

PHC 5030 Individual Research in Pharmacology Cr. 2-5
Direct participation in laboratory research into the ways drugs affect cell processes, under the supervision of a departmental faculty advisor. Introduction to experimental protocol and current related scientific literature. Offered for graduate credit only. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.

PHC 6500 Drugs and the Addictive Process Cr. 3
Introduction to general principles of drug action; specific pharmacologic, toxicologic, and pathologic effects of abused drugs; bio-psycho-social bases for addiction. Offered for graduate credit only. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.

PHC 7010 Pharmacology Lecture Cr. 4
Introductory presentation of drug actions on living tissue. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students.

PHC 7220 Molecular Biology of Cancer Development Cr. 3
Topics covered include: genetics and molecular basis of normal cell transformation into malignant cancer cells; and molecular mechanisms that are fundamental to the regulation of cell growth, development, and differentiation. The students are expected to present and participate in discussions of one or more key recent papers that are relevant to the lectures. Students with a strong background in biology/molecular biology are encouraged to apply. Offered Every Other Year.
Prerequisite: IBS 7015 with a minimum grade of C and CB 7210 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: CB 7220

PHC 7240 Principles of Cancer Therapy Cr. 2
Continuation of the principles of cancer therapy taught in CB 7210. Concepts relating to tumor biology and the biochemistry and pharmacology of both classic and targeted agents are covered. Offered Every Other Winter.
Prerequisite: IBS 7015 with a minimum grade of C and CB 7210 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: CB 7240

PHC 7410 Principles of Toxicology Cr. 3
Basic concepts and principles of toxicology, including toxicity of major classes of chemicals (pesticides, solvents, metals) and organ systems (renal, immune, digestive, neuro and respiratory) affected. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: BIO 7011

PHC 7650 Advanced Topics in Pharmacology Cr. 1-6
Modules of instruction in sharply-defined areas of current research in pharmacology and related disciplines. Each module will cover fundamental concepts, essential knowledge base, research protocols and techniques, and future issues. Offered Every Term.
Prerequisite: PHC 7010 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 6 Credits

PHC 7700 Recent Developments in Pharmacology Cr. 1-4
Selected topics and readings in pharmacology. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 12 Credits

PHC 7710 Individual Studies in Pharmacology Cr. 1-8
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Pharmacology; enrollment limited to students in a Doctor of Philosophy or Master of Science degrees.
Repeatable for 8 Credits

PHC 7890 Seminar Cr. 1
Assigned readings and student presentation; faculty and outside speakers. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Pharmacology; enrollment limited to students in a Doctor of Philosophy or Master of Science degrees.
Repeatable for 12 Credits

PHC 7996 Research Cr. 1-20
Special research topics in specified areas arranged with individual faculty members. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 30 Credits

PHC 8999 Master's Thesis Research and Direction Cr. 1-8
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students with a class of Candidate Masters.
Repeatable for 8 Credits

PHC 9990 Pre-Doctoral Candidacy Research Cr. 1-8
Research in preparation for doctoral dissertation. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 12 Credits

PHC 9991 Doctoral Candidate Status I: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.

PHC 9992 Doctoral Candidate Status II: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: PHC 9991 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

PHC 9993 Doctoral Candidate Status III: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: PHC 9992 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

PHC 9994 Doctoral Candidate Status IV: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: PHC 9993 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

PHC 9995 Candidate Maintenance Status: Doctoral Dissertation Research and Direction Cr. 0
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $370.26
Repeatable for 0 Credits

PHI - PHILOSOPHY

PHI 1010 Introduction to Philosophy Cr. 4
Satisfies General Education Requirement: Cultural Inquiry, Philosophy Letters
Survey of some major questions that have occupied philosophers throughout history, such as Does God exist? What is a good person? Do we have free will? Is the mind the same as the brain? What can we really know? Course will acquaint students with major figures both historical and contemporary. Offered Every Term.

PHI 1020 Honors Introduction to Philosophy Cr. 3-4
Satisfies General Education Requirement: Cultural Inquiry, Honors Section, Philosophy Letters
Survey of some major questions that have occupied philosophers throughout history, such as Does God exist? What is a good person? Do we have free will? What can we really know? Course will acquaint students with major figures both historical and contemporary. Offered Intermittently.

PHI 1050 Critical Thinking Cr. 3
Satisfies General Education Requirement: Critical Thinking Competency
Knowledge and skills relevant to the critical evaluation of claims and arguments. Topics will include: the formulation and identification of deductively and inductively warranted conclusions from available evidence; the assessment of the strengths of arguments; the assessment of consistency, inconsistency, implications, and equivalence among statements; the identification of fallacious patterns of inference; and the recognition of explanatory relations among statements. Offered Every Term.

PHI 1070 Reasoning and Decision Cr. 3
Satisfies General Education Requirement: Quantitative Experience Comp
Students develop quantitative reasoning skills such as statistical analysis and probabilistic reasoning. Offered Every Term.

PHI 1100 Contemporary Moral Issues Cr. 3
Satisfies General Education Requirement: Cultural Inquiry, Diversity Equity Incl Inquiry, Philosophy Letters
Critical discussion of contemporary moral issues including pornography, adultery, same-sex marriage, abortion, preferential treatment, obligations to the poor, capital punishment, terrorism, and others. Offered Yearly.
Repeatable for 9 Credits

PHI 1110 Ethical Issues in Health Care Cr. 3
Satisfies General Education Requirement: Cultural Inquiry, Diversity Equity Incl Inquiry, Philosophy Letters
Survey of moral issues that arise in the practice of medicine and in pursuit of medical knowledge: abortion, euthanasia, experimentation on human subjects, informed consent, rights to health care, genetic engineering, the concepts of death, health and disease. Offered Yearly.

PHI 1120 Professional Ethics Cr. 3
Satisfies General Education Requirement: Cultural Inquiry, Philosophy Letters
Critical examination of moral issues in the workplace, including: discrimination and preferential treatment, sexual harassment, whistle-blowing, privacy and disclosure, corporate social responsibility. No credit after PHI 1110. Offered Yearly.

PHI 1130 Environmental Ethics Cr. 3
Satisfies General Education Requirement: Cultural Inquiry, Philosophy Letters
Is the natural world something to be valued in itself, or is its value exhausted by the uses human beings derive from it? This course introduces students to some of the major views on the subject, anthropocentric (human-centered) and non-anthropocentric. Offered Yearly.
Restriction(s): Enrollment is limited to Undergraduate level students.

PHI 1200 Life and Death Cr. 3
Satisfies General Education Requirement: Cultural Inquiry, Philosophy Letters
Central philosophical and religious questions about life and death, and the enterprise of answering these questions through reasoning and argument. What is it to be alive, and to die? Do we cease to exist when we die, or might we continue to exist in an afterlife following our deaths? Should we fear or regret the fact that we will die someday, or should we be indifferent to it? Why is killing wrong? Is it always wrong to prevent a life from beginning, or to help someone bring his or her own life to an end? What, if anything, makes a life meaningful? We will study the ways in which these questions are raised and answered in a selection of classic and contemporary works of philosophy and literature. Offered Yearly.

PHI 1500 Race, Sex, and Religion Cr. 3
Satisfies General Education Requirement: Cultural Inquiry, Diversity Equity Incl Inquiry
An examination of contemporary ethical issues and controversies involving race, sex, religion, and related topics such as gender identity, class, economic injustice, immigration, and sexual orientation. Offered Fall, Winter.

PHI 2100 Ancient Greek Philosophy Cr. 3
Satisfies General Education Requirement: Cultural Inquiry, Philosophy Letters
Introduction to the Western philosophical tradition from its origins in Ancient Greece. Readings from the pre-Socratics, Plato, and Aristotle. Offered Every Other Year.

PHI 2110 Seventeenth and Eighteenth Century Philosophy Cr. 3
Satisfies General Education Requirement: Cultural Inquiry, Philosophy Letters
A survey of the views concerning knowledge and reality of the major European philosophers of the seventeenth and eighteenth centuries such as Descartes, Spinoza, Leibniz, Locke, Berkeley, Hume, and Kant. Offered Every Other Year.

PHI 2140 Ancient Greek Medicine and Psychology Cr. 3
Satisfies General Education Requirement: Cultural Inquiry
An examination of early Greek psychology and medical practice and theory. Figures and schools of thought covered include Homer, Empedocles, Hippocrates and the Hippocratic school, Plato, Aristotle, and Epicurus. Offered Fall.

PHI 2150 Chinese Philosophy Cr. 3
Satisfies General Education Requirement: Foreign Culture, Global Learning Inquiry
Main philosophical traditions from ancient to pre-Communist China. Readings from Confucianism. Taoism, Mohism, Legalism, Buddhism, Neo-Confucianism, and the Chinese Enlightenment. Offered Winter.
Restriction(s): Enrollment is limited to Undergraduate level students.

PHI 2170 Islamic and Near Eastern Philosophy Cr. 3
Satisfies General Education Requirement: Global Learning Inquiry
An examination of major figures and movements in Islamic and Near Eastern philosophy. Offered Fall.
Equivalent: NE 2170

PHI 2320 Introduction to Ethics Cr. 3
Satisfies General Education Requirement: Cultural Inquiry, Philosophy Letters
An introduction to some classical and modern views concerning such questions as: What determines the rightness and wrongness of actions? What is the nature of moral reasoning? What constitutes a moral life? Offered Every Term.

PHI 2330 Introduction to Social and Political Philosophy Cr. 3
Introduction to the basic issues of political philosophy, such as the nature of the state, the ways of justifying its power and authority over its citizens; a philosophical analysis of central concepts like those of freedom, justice, and equality. Selected readings from some of the following: Plato, Aristotle, Hobbes, Locke, Rousseau, Mill, Marx, and Rawls. Offered Intermittently.

PHI 2360 Feminist Philosophy Cr. 3
Satisfies General Education Requirement: Cultural Inquiry, Diversity Equity Incl Inquiry
An examination of work by feminist philosophers. Offered Winter.

PHI 2390 Philosophy of Human Rights Cr. 3
Addresses central issues in the philosophy of human rights, including questions about the foundation, content, and application of human rights. Examines different approaches to the foundation of human rights and considers whether human rights have one unique foundation or plural foundations. Offered Fall.

PHI 2400 Introduction to the Philosophy of Religion Cr. 3
Satisfies General Education Requirement: Cultural Inquiry, Philosophy Letters
Religious beliefs provide subject matter for philosophical study; for example, Are the traditional arguments for the existence of God credible? Does the existence of evil conflict with a belief in God's omnipotence and omnibenevolence? What is the value of religious experience? Offered Intermittently.

PHI 2550 Introduction to Philosophy of Science Cr. 3
Satisfies General Education Requirement: Cultural Inquiry, Philosophy Letters
Distinguishing science from non-science; how scientific knowledge is established; what constitutes scientific progress; whether science is cumulative; the place of science in the enterprise of knowledge and rational belief. Offered Every Other Year.

PHI 2650 Philosophy of Psychology Cr. 3
Satisfies General Education Requirement: Cultural Inquiry
Central examples of these questions and proposed answers: Could we build an intelligent computer? Is our mind just a piece of software that our brain is running? Is there a ""language of thought""? Are we much less rational than we think? How can we understand each other's minds? Can there be laws in psychology? What is consciousness, and can it be studied scientifically? We will address these and other questions via the work of philosophers, psychologists and cognitive scientists. Offered Winter.
Equivalent: PSY 2650

PHI 2850 Introductory Symbolic Logic Cr. 3
The logic of propositions; the general logic of predicates and relations. Offered Yearly.
Equivalent: LIN 1850

PHI 2860 Honors Introductory Symbolic Logic Cr. 3
Satisfies General Education Requirement: Honors Section
See PHI 1850. Offered Yearly.
Equivalent: LIN 1860

PHI 3270 Foundations of Law Cr. 3
The legal system we live under commands, forbids, punishes, and defines responsibilities and harm. Common-sense morality: what is it, and what is its relation to law? Statutory interpretation: do judges create new law? Punishment: why do we have it, and what rights do the accused have? What is the legal concept of harm and responsibility? Offered Every Other Year.
Prerequisites: PHI 2000-6XXX with a minimum grade of D- or CLA 1010 with a minimum grade of D- or PS 1010-1030 with a minimum grade of D-

PHI 3450 Existentialism Cr. 3
Examines major philosophical views and figures in the Existentialist tradition, such as Sartre, Camus, Heidegger, de Beauvoir, Buber, Ortega y Gassett, Kierkegaard, and Nietzsche. Offered Fall.

PHI 3500 Theory of Knowledge Cr. 3
Satisfies General Education Requirement: Cultural Inquiry, Philosophy Letters
The distinction between knowledge and belief is germane to every field of inquiry. What is the difference between knowledge and belief? Do we know anything at all? If so, how? Are we ever in a position of being certain about beliefs pertaining to an objective world? Is our belief in an objective world based on our subjective experiences? Offered Every Term.

PHI 3550 Metaphysics Cr. 3
Satisfies General Education Requirement: Cultural Inquiry, Philosophy Letters
Survey and examination of some of the enduring questions of metaphysics concerning the nature of reality. Topics include: the nature of physical objects, abstract entities, the concepts of time and change, the relation between mind and body, causation, the nature of metaphysics. Offered Yearly.

PHI 3600 Space, Time, and the Philosophy of Physics Cr. 3
Survey of some principal problems concerning the concepts of space and time and their relation to physical theories. Topics include: our knowledge of the geometric features of the world, the existence of space and time, time without change, the passage of time, the philosophical foundations and implications of Einstein's Special Theory of Relativity, and the explanation of motion and the General Theory of Relativity. No prior knowledge of modern physics will be presupposed. Offered Every Other Year.
Prerequisites: PHI 2000-6XXX with a minimum grade of D-

PHI 3700 Philosophy of Art Cr. 3
Satisfies General Education Requirement: Cultural Inquiry, Philosophy Letters
What are art works? Why are they so moving? What is the nature of the experience they offer? This course introduces the student to some of the schools of thought on these issues. It also attempts to deal with the specific natures of the various artistic media, such as: drama, literature, film, painting, photography, music and opera. Offered Every Term.

PHI 3800 Topics in Philosophy Cr. 3
Topics to be announced in Schedule of Classes . Offered Intermittently.
Repeatable for 6 Credits

PHI 4870 Honors Directed Reading Cr. 4
Research on topic of honors essay and research for comprehensive examinations. Offered Fall.
Restriction(s): Enrollment is limited to students with a major in Philosophy Honors; enrollment limited to students in a Bachelor of Arts degree.

PHI 4890 Honors Thesis Cr. 3
Continuation of PHI 4870. Offered Winter.
Restriction(s): Enrollment limited to students in the Honors College.

PHI 4995 Research Training Cr. 1-4
Students engage in an independent research project and learn research methods in Philosophy under the supervision of a faculty member. Offered Every Term.
Repeatable for 4 Credits

PHI 5050 Advanced Symbolic Logic Cr. 4
Formal, extensive treatment of first-order predicate logic with emphasis on the notions of a formal logical language and truth in a model; the logic of identity; definite descriptions; brief introductions to set theory and the metatheory of propositional and first-order logic; some additional advanced topics to be selected by the instructor. Offered Yearly.
Equivalent: LIN 5050

PHI 5230 Philosophy of Science Cr. 4
Intensive investigation and discussion of special topics or particular authors in the philosophy of science. Offered Yearly.
Prerequisites: 1 of PHI 2400, PHI 2550, PHI 3500, PHI 3600, PHI 5230, PHI 5500, PHI 5530, PHI 5550, PHI 5570, PHI 5630, PHI 5640

PHI 5240 Special Topics in Social and Political Philosophy Cr. 4
Selected topics and readings from major social and political philosophers. Offered Intermittently.
Prerequisites: May be taken concurrently: PHI 2000-ZZZZ with a minimum grade of C
Repeatable for 8 Credits

PHI 5250 Justice and Rights in Health Care Cr. 4
This course is centered around the general question: What does justice require of a society in terms of providing health care to its members? It examines classic philosophical theories of justice including egalitarianism, libertarianism, and Rawls' justice as fairness, before turning to the implications of these theories for health care access. Questions include: Does justice require providing universal health care? Is it compatible with offering different health care plans to different persons, or does justice require everyone have the same health care? How do issues of fairness in health care access relate to various forms of oppression in society, such as racism, classism, and sexism? Offered Fall.
Prerequisites: May be taken concurrently: PHI 2000-ZZZZ with a minimum grade of C

PHI 5260 Philosophy of Sex and Gender Cr. 3
Explores ethical and conceptual issues surrounding sex, gender, and sexual orientation. Specific topics include conceptual analysis of sex, gender, and sexual orientation; sexual perversion, natural law, consent, marriage, adultery, "casual" sex, polygamy and polyamory, prostitution, and pornography. Offered Every Other Year.

PHI 5270 Philosophy of Law Cr. 4
Intensive investigation and discussion of special topics or particular authors in the philosophy of law. Offered Every Other Year.

PHI 5280 History of Ethics Cr. 4
A survey and discussion of historically important moral philosophers from Plato to Mill. Offered Every Other Year.
Prerequisites: PHI 2000-6XXX with a minimum grade of D- or CLA 1010 with a minimum grade of D- or PS 1010-1030 with a minimum grade of D-

PHI 5290 Free Will and Moral Responsibility Cr. 4
Exploration of the nature of, and relationship between, free will and moral responsibility. Questions include: What is free will? Is free will required for moral responsibility? Are freedom and responsibility compatible with determinism (the claim that the initial state of the universe plus the physical laws of nature determine everything that happens)? Does our practice of holding one another responsible reveal the nature of moral responsibility? Offered Fall.
Prerequisites: May be taken concurrently: PHI 2000-ZZZZ with a minimum grade of C

PHI 5300 Foundations of Ethics Cr. 4
Twentieth century moral philosophers in the analytic tradition, with focus on debates in moral realism, moral epistemology, and the ""Why be moral?"" question; includes such philosophers as Moore, Stevenson, Foot, Mackie, Blackburn, Gibbard, Parfit, Korsgaard, and Railton. Offered Every Other Year.
Prerequisites: PHI 2000-6XXX with a minimum grade of D- or CLA 1010 with a minimum grade of D- or PS 1010-1030 with a minimum grade of D-

PHI 5350 Logical Systems I Cr. 4
Metaresults concerning formal systems of sentential and first-order logics; soundness, completeness; independence of axioms; introduction to recursive functions; formalization of elementary arithmetic; discussion of Godel's incompleteness theorem and Church's Theorem. Offered Every Other Year.
Prerequisites: MAT 5600 with a minimum grade of C- or PHI 2850 with a minimum grade of C- or PHI 2860 with a minimum grade of C- or PHI 5050 with a minimum grade of C- or MAT 5420 with a minimum grade of C-
Equivalent: MAT 5350

PHI 5400 The Presocratics and Sophists Cr. 4
Selected readings on topics in philosophers who preceded or were contemporaneous with Socrates (7th - 5th centuries B.C.E), such as Heraclitus, Parmenides, Zeno, Democritus. Offered Intermittently.
Prerequisites: PHI 2000-6XXX with a minimum grade of D- or CLA 1010 with a minimum grade of D- or PS 1010-1030 with a minimum grade of D-

PHI 5410 Plato Cr. 4
Selected readings on topics in Plato. Offered Every Other Year.
Prerequisites: PHI 2000-6XXX with a minimum grade of D- or CLA 1010 with a minimum grade of D- or PS 1010-1030 with a minimum grade of D-

PHI 5420 Aristotle Cr. 4
Selected readings on topics in Aristotle. Offered Every Other Year.

PHI 5450 British Empiricism Cr. 4
Topics concerning Locke, Berkeley or Hume. Offered Intermittently.
Prerequisites: PHI 2000-6XXX with a minimum grade of D- or CLA 1010 with a minimum grade of D- or PS 1010-1030 with a minimum grade of D-

PHI 5460 Kant Cr. 4
Selected topics or readings in Kant's philosophy. Offered Every Other Year.
Prerequisites: PHI 2000-6XXX with a minimum grade of D- or CLA 1010 with a minimum grade of D- or PS 1010-1030 with a minimum grade of D-

PHI 5500 Topics in Metaphysics Cr. 4
Intensive investigation and discussion of special topics or particular authors in metaphysics. Offered Yearly.
Prerequisites: 1 of PHI 2400, PHI 2550, PHI 3500, PHI 3600, PHI 5230, PHI 5500, PHI 5530, PHI 5550, PHI 5570, PHI 5630, PHI 5640

PHI 5530 Topics in Epistemology Cr. 4
Intensive investigation and discussion of special topics or particular authors in the theory of knowledge. Offered Intermittently.
Prerequisites: 1 of PHI 2400, PHI 2550, PHI 3500, PHI 3600, PHI 5230, PHI 5500, PHI 5530, PHI 5550, PHI 5570, PHI 5630, PHI 5640

PHI 5550 Philosophy of Mind Cr. 4
Intensive investigation and discussion of special topics or particular authors concerned with the nature and status of the mental and theories about the mental. Offered Every Other Year.
Prerequisites: 1 of PHI 2400, PHI 2550, PHI 3500, PHI 3600, PHI 5230, PHI 5500, PHI 5530, PHI 5550, PHI 5570, PHI 5630, PHI 5640

PHI 5570 Philosophy of Language Cr. 4
Intensive investigation and discussion of philosophical problems concerning meaning, truth, and the nature of language. Offered Every Other Year.
Prerequisites: 1 of PHI 2400, PHI 2550, PHI 3500, PHI 3600, PHI 5230, PHI 5500, PHI 5530, PHI 5550, PHI 5570, PHI 5630, PHI 5640
Equivalent: LIN 5570

PHI 5630 Twentieth Century Analytic Philosophy I Cr. 4
Major works, movements, and writers in the analytic tradition in the twentieth century up to the 1940s, such as Frege, Russell, Moore, the early Wittgenstein, Carnap, Ayer. Offered Intermittently.
Prerequisites: 1 of PHI 2400, PHI 2550, PHI 3500, PHI 3600, PHI 5230, PHI 5500, PHI 5530, PHI 5550, PHI 5570, PHI 5630, PHI 5640

PHI 5800 Special Topics in Philosophy Cr. 2-4
Topics and prerequisites to be announced in Schedule of Classes . Offered Intermittently.
Repeatable for 8 Credits

PHI 5900 Capstone Seminar in Philosophy Cr. 4
Advanced seminar in Philosophy. Topics and instructor vary by semester. Offered Fall, Winter.
Restriction(s): Enrollment is limited to students in the Department of Philosophy.
Repeatable for 12 Credits

PHI 5990 Directed Reading Cr. 1-6
Intensive investigation by student on topic chosen by student in consultation with instructor. Offered Every Term.
Repeatable for 12 Credits

PHI 5993 Writing Intensive Course in Philosophy Cr. 0
Satisfies General Education Requirement: Writing Intensive Competency
Disciplinary writing assignments under direction of faculty member. Must be selected in conjunction with a course designated as a corequisite; see section listing in Schedule of Classes for corequisites available each term. Satisfies the University General Education Writing Intensive Course in the Major requirement. Directed practice in rewriting assignments for the concurrently-elected course, for the purpose of perfecting skills in philosophical writing. Does not count toward the course minimums for the major or minor. Required for all majors. Offered Every Term.
Prerequisites: May be taken concurrently: PHI 3000-5040 or PHI 5200-5340 or PHI 5400-6999 or AFS 2390 with a minimum grade of C or ENG 2390 with a minimum grade of C or ENG 3010 with a minimum grade of C or ENG 3020 with a minimum grade of C or ENG 3050 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students.

PHI 7790 Seminar in Philosophy of Language Cr. 4
Offered Intermittently.
Prerequisites: PHI 5000-5999
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 8 Credits

PHI 7800 Seminar in Philosophy: Special Topics Cr. 4
Offered Intermittently.
Prerequisites: PHI 5000-5999
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 8 Credits

PHI 7810 Seminar in History of Philosophy Cr. 4
Study of a philosopher or period. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 8 Credits

PHI 7840 Seminar in Ethics Cr. 4
Offered Intermittently.
Prerequisites: PHI 5000-5999
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 8 Credits

PHI 7850 Seminar in Epistemology Cr. 4
Offered Intermittently.
Prerequisites: PHI 5000-5999
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 8 Credits

PHI 7860 Seminar in Metaphysics Cr. 4
Offered Intermittently.
Prerequisites: PHI 5000-5999
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 8 Credits

PHI 7990 Directed Study in Philosophy Cr. 1-4
Directed study for graduate students in Philosophy. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 12 Credits

PHI 7999 Master's Essay Direction Cr. 1-4
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students with a class of Candidate Masters.
Repeatable for 99 Credits

PHI 8999 Master's Thesis Direction and Research Cr. 1-8
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students with a class of Candidate Masters.
Repeatable for 8 Credits

PHI 9990 Pre-Doctoral Candidacy Research Cr. 1-8
Research in preparation for doctoral dissertation. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 12 Credits

PHI 9991 Doctoral Candidate Status I: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.

PHI 9992 Doctoral Candidate Status II: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: PHI 9991 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

PHI 9993 Doctoral Candidate Status III: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: PHI 9992 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

PHI 9994 Doctoral Candidate Status IV: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: PHI 9993 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

PHI 9995 Candidate Maintenance Status: Doctoral Dissertation Research and Direction Cr. 0
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $370.26
Repeatable for 0 Credits

PHY - PHYSICS

PHY 1001 Perspectives in Physics, Biomedical Physics, and Astronomy Cr. 1
Survey of educational and career paths including specializations in basic research and applied disciplines; recommended for entering students and those considering or beginning a major or minor concentration. Offered Fall.
Restriction(s): Enrollment is limited to Undergraduate level students.

PHY 1020 Conceptual Physics: The Basic Science Cr. 4
Satisfies General Education Requirement: Natural Scientific Inquiry, Physical Sciences
Physical concepts and practical applications to everyday life of the basic principles of motion, forces, energy, matter, heat, sound, electricity, magnetism, and light. Lectures, demonstrations and optional laboratory; laboratory is strongly recommended. Meets General Education Laboratory Requirement when elected for 4 credits. Offered Every Term.
Course Material Fees: $25

PHY 2020 Science, Technology, and War Cr. 4
Modern weapons, nuclear and otherwise are becoming increasingly available and dangerous; people with grievances seem eager to use them. Science and technology, as well as constraints of bureaucracy and society underpin weapons development and use, as technologies affect prospects and results of war and peace. History of humanity and its tools of war. Offered Yearly.
Equivalent: HIS 2510, PCS 2020, PS 2440

PHY 2130 Physics for the Life Sciences I Cr. 4
Satisfies General Education Requirement: Natural Scientific Inquiry, Physical Sciences
Introduction to physics for students in the life sciences, preparing for medicine, dentistry, pharmacy and health sciences and for general Liberal Arts and Sciences students. Covers motion, forces, energy, diffusion, fluids, thermal physics with many biological examples. Satisfies General Education laboratory requirement only when taken concurrently with PHY 2131. No credit after PHY 2170. Offered Every Term.
Corequisite: PHY 2131

PHY 2131 Physics for the Life Sciences Laboratory Cr. 1
Laboratory experiments in fluid mechanics, diffusion and biophysics. Satisfies General Education laboratory requirement only when taken concurrently with PHY 2130. Offered Every Term.
Course Material Fees: $25

PHY 2140 Physics for the Life Sciences II Cr. 4
Second part of introduction to physics for students in the life sciences, students preparing for medicine, dentistry, pharmacy and health sciences and for general Liberal Arts and Sciences students. Covers thermodynamics, electric fields, oscillations, waves and optics. No credit after PHY 2180. Offered Every Term.
Prerequisites: PHY 2130 with a minimum grade of C-
Corequisite: PHY 2141

PHY 2141 Physics for the Life Sciences Laboratory Cr. 1
Laboratory experiments in electric fields, fluids, optics and spectroscopy. Offered Every Term.
Course Material Fees: $25

PHY 2170 University Physics for Scientists I Cr. 4
Satisfies General Education Requirement: Natural Scientific Inquiry, Physical Sciences
For students specializing in physics, biology, chemistry, mathematics or engineering. Statics, kinematics, dynamics, energy and linear momentum, rotational kinematics and dynamics, angular momentum, solids and fluids, vibrations and wave motion, thermodynamics. Satisfies General Education Laboratory Requirement only when taken concurrently with PHY 2171. No credit after PHY 2175. Offered Every Term.
Prerequisites: MAT 1800 with a minimum grade of C- and May be taken concurrently: MAT 2010 with a minimum grade of C-
Corequisite: PHY 2171

PHY 2171 University Physics Laboratory Cr. 1
Laboratory experiments in statics, kinematics, dynamics, energy and linear momentum, rotational kinematics and dynamics, angular momentum, simple harmonic motion, optics, continuum mechanics, thermodynamics. Satisfies General Education laboratory requirement only when taken concurrently with PHY 2170. Offered Every Term.
Course Material Fees: $25

PHY 2175 University Physics for Engineers I Cr. 4
Satisfies General Education Requirement: Natural Scientific Inquiry, Physical Sciences
For students specializing in engineering. Statics, kinematics, dynamics, energy and linear momentum, rotational kinematics and dynamics, angular momentum, solids and fluids, vibrations and wave motion, thermodynamics. No credit after PHY 2170. Offered Every Term.
Prerequisites: MAT 1800 with a minimum grade of D- and May be taken concurrently: MAT 2010 with a minimum grade of C
Restriction(s): Enrollment limited to students in the College of Engineering.

PHY 2180 University Physics for Scientists II Cr. 4
Electric forces and electric fields, electrical energy, capacitance, current, resistance, direct current circuits, magnetism, induced voltage and inductance, AC circuits, electromagnetic waves, geometric and wave optics. No credit after PHY 2185. Offered Every Term.
Prerequisites: MAT 2010 with a minimum grade of D- and May be taken concurrently: MAT 2020 with a minimum grade of D- and PHY 2170 with a minimum grade of C-
Corequisite: PHY 2181

PHY 2181 University Physics Laboratory II Cr. 1
Laboratory experiments in electrostatics, currents and circuit elements, magnetic fields, magnetic induction, AC circuits, electromagnetic waves, interference of waves. Offered Every Term.
Course Material Fees: $25

PHY 2185 University Physics for Engineers II Cr. 4
Electric forces and electric fields, electrical energy, capacitance, current, resistance, direct current circuits, magnetism, induced voltage and inductance, AC circuits, electromagnetic waves, geometric and wave optics. No credit after PHY 2180. Offered Every Term.
Prerequisites: PHY 2170 with a minimum grade of C- or PHY 2175 with a minimum grade of C- and MAT 2010 with a minimum grade of D- and May be taken concurrently: MAT 2020 with a minimum grade of D-
Restriction(s): Enrollment limited to students in the College of Engineering.

PHY 2210 General Physics Laboratory Cr. 1
Consult departmental undergraduate academic advisor prior to registering for this course. No credit after PHY 1020 if taken for four credits. Offered Every Term.
Prerequisite: PHY 1020 with a minimum grade of D-
Course Material Fees: $15

PHY 3100 The Sounds of Music Cr. 4
Satisfies General Education Requirement: Natural Scientific Inquiry, Physical Sciences
For music majors and other students interested in the physical foundations of the production, perception, and reproduction of musical sounds. Makes only limited use of simple mathematics. Includes topics such as wave properties, loudness levels and the human ear, hearing loss, tone quality, frequency and pitch, musical intervals and tuning, room acoustics, the production of sound by various musical instruments, and electronic reproduction of music. Meets General Education Laboratory Requirement. Offered Fall.
Course Material Fees: $25

PHY 3300 Introductory Modern Physics Cr. 3
For physics, chemistry, engineering, mathematics majors and other interested students. Introduction to relativity, quantum phenomena, atomic structure, quantum mechanics, condensed matter physics, quantum optics, nuclear physics, elementary particles, and anti-particles. Offered Fall, Winter.
Prerequisites: PHY 2130 with a minimum grade of C- and PHY 2131 with a minimum grade of C- or PHY 2170 with a minimum grade of C- and PHY 2171 with a minimum grade of C- and PHY 2140 with a minimum grade of C- and PHY 2141 with a minimum grade of C- or PHY 2180 with a minimum grade of C- and PHY 2181 with a minimum grade of C- and MAT 2020 with a minimum grade of C-
Corequisite: PHY 3310

PHY 3310 Introductory Modern Physics Laboratory Cr. 2
Laboratory course to accompany PHY 3300. Hands-on experience in logical and rigorous analysis of phenomena of modern physics. Offered Fall, Winter.
Prerequisites: PHY 2140 with a minimum grade of D- and PHY 2141 with a minimum grade of D- or PHY 2180 with a minimum grade of D- and PHY 2181 with a minimum grade of D- and May be taken concurrently: PHY 3300 with a minimum grade of C or PHY 5015 with a minimum grade of C
Course Material Fees: $25

PHY 3500 Introduction to Thermal and Fluid Physics Cr. 3
Provides an introduction to physics of gases, fluids and other states of matter for majors in physics and other science, technology and mathematics fields. builds on a knowledge of the mechanics in introductory physics courses. Topics covered include: thermodynamic equilibrium; energy, work and heat; Ideal gas and kinetic theory; entropy; free energy; Maxwell relations; chemical equilibria; equilibrium between liquids, solids and gases; heat transport and kinetics; and properties of fluids. Familiarity with mathematics at the level of Calculus 3 is recommended. Offered Yearly.
Prerequisite: PHY 2170 with a minimum grade of C- or PHY 2180 with a minimum grade of C-

PHY 3700 Mathematics for Biomedical Physics Cr. 4
Training in specific applied topics of mathematics for biomedical physics majors. Offered Fall.
Prerequisites: PHY 2130 with a minimum grade of C-, PHY 2131 with a minimum grade of C-, PHY 2140 with a minimum grade of C-, and PHY 2141 with a minimum grade of C- or PHY 2170 with a minimum grade of C-, PHY 2171 with a minimum grade of C-, PHY 2180 with a minimum grade of C-, and PHY 2181 with a minimum grade of C- and May be taken concurrently: MAT 2020 with a minimum grade of C-

PHY 3750 Introduction to Computational Methods Cr. 1
Introduction to the principles of computer programming with MATLAB or similar software. In addition to learning applications of the software, there will be opportunities for independent or group projects of interest to students. Offered Fall.
Prerequisites: PHY 2130 with a minimum grade of C- and PHY 2140 with a minimum grade of C- or PHY 2170 with a minimum grade of C- and PHY 2180 with a minimum grade of C- and May be taken concurrently: MAT 2020 with a minimum grade of C-
Restriction(s): Enrollment is limited to students with a major in Biomedical Physics.

PHY 3990 Directed Study Cr. 1-4
Primarily for students who wish to continue in a field beyond material covered in regular courses, or who wish to study material not covered in regular courses, including certain research participation. Offered Every Term.
Repeatable for 4 Credits

PHY 4700 Introduction to Biomedical Physics Cr. 4
Basic and applied physical concepts used in biology, human anatomy, and physiology, as well as in medical diagnosis and treatment. Offered Winter.
Prerequisites: PHY 2130 with a minimum grade of C- and PHY 2140 with a minimum grade of C- or PHY 2170 with a minimum grade of C- and PHY 2180 with a minimum grade of C- and PHY 3700 with a minimum grade of C- and MAT 2020 with a minimum grade of D-

PHY 5010 Astrophysics and Stellar Astronomy Cr. 3
Electromagnetic radiation and matter; solar characteristics; stellar distances; magnitudes; spectral classification; celestial mechanics; binary stars; stellar motions, structure and evolution; compact and variable stars; Milky Way Galaxy and interstellar medium; galaxies and clusters of galaxies; quasars; Hubble's Law; cosmology. Offered Every Other Winter.
Prerequisites: PHY 3300 with a minimum grade of C-
Equivalent: AST 5010

PHY 5015 Non-classical Physics for Educators Cr. 3
Development of relativity and quantum mechanics. Emphasis on nuclear physics and elementary particles. Required math: algebra and trigonometry. Offered for undergraduate credit only. Offered Winter.
Prerequisites: PHY 2130 with a minimum grade of D- and PHY 2140 with a minimum grade of D-

PHY 5100 Methods of Theoretical Physics I Cr. 3
Introduction to mathematical tools used in advanced courses in physics. Offered Fall.
Prerequisites: MAT 2030 with a minimum grade of C- and PHY 2180 with a minimum grade of C-

PHY 5200 Classical Mechanics I Cr. 3
Introduction to fundamental ideas: Newton's laws, notions of momentum, angular momentum, kinetic and potential energy, mechanical energy, conservation laws, motion in 1- and 3-D, friction and retardation forces, oscillations, resonances, and gravitation. Offered Fall.
Prerequisites: PHY 2180 with a minimum grade of C- and May be taken concurrently: PHY 5100 with a minimum grade of C-

PHY 5210 Classical Mechanics II Cr. 3
Accelerated reference frames, centrifugal and Coriolis forces, rigid body dynamics, motion of tops and gyroscopes, Lagrange's equations, constraints, Lagrange multipliers, general central force problem, stability of orbits, relativistic mechanics. Offered Winter.
Prerequisite: PHY 5200 with a minimum grade of C- and MAT 2150 with a minimum grade of C-

PHY 5340 Optics Cr. 3
Electromagnetic radiation; geometrical, physical, and modern optics. Offered Winter.
Prerequisites: MAT 2030 with a minimum grade of C- and PHY 2140 with a minimum grade of C- or PHY 2180 with a minimum grade of C- and PHY 3700 with a minimum grade of C- or PHY 2140 with a minimum grade of C- and PHY 3700 with a minimum grade of C- or MAT 2030 with a minimum grade of C- and PHY 2180 with a minimum grade of C-

PHY 5341 Optics Laboratory Cr. 2
Experiments involving geometrical, physical, and quantum optics. Offered Winter.
Prerequisites: May be taken concurrently: ECE 5760 with a minimum grade of C and May be taken concurrently: PHY 5340 with a minimum grade of C
Course Material Fees: $25

PHY 5460 Lasers for Medical Applications Cr. 3
Summarizes the wealth of recent research on the principles, technologies and application of lasers in diagnostics, therapy and surgery. Includes an overview of optics, optical components used in a typical laser, key principles of lasers and radiation interactions with tissue. The respective types of the laser (solid state, gas, dye, and semiconductor) are reviewed to provide an understanding of the wide diversity, and therefore, the large possible choice of these devices for a specific diagnosis, treatment, or surgery. Offered Winter.
Equivalent: BME 5460, ME 5465

PHY 5620 Electronics and Electrical Measurements Cr. 3
Theory of amplifier circuits, operational amplifiers, oscillators, digital electronics, analog and digital measurements. Offered Fall.
Prerequisites: PHY 2180 with a minimum grade of C- and PHY 2181 with a minimum grade of C- or PHY 2140 with a minimum grade of C- and PHY 2141 with a minimum grade of C- and May be taken concurrently: PHY 5621 with a minimum grade of C-
Corequisite: PHY 5621

PHY 5621 Electronics and Electrical Measurements Laboratory Cr. 2
Laboratory measurements related to amplifier circuits, operational amplifiers, oscillators, and digital electronics. The lab will also cover analog and digital measurements and will require a final project. Offered Fall.
Corequisite: PHY 5620
Course Material Fees: $25

PHY 5750 Biological Physics Cr. 4
Introduction to applications of physics to molecular biology. Offered Fall.
Prerequisites: PHY 3700 with a minimum grade of C- and PHY 4700 with a minimum grade of C-

PHY 5990 Directed Study Cr. 1-3
Primarily for students who wish to continue in a field beyond material covered in regular courses, or who wish to study material not covered in regular courses, including certain research participation. Offered Every Term.
Repeatable for 6 Credits

PHY 6400 Quantum Physics I Cr. 3
Operators and their eigenfunctions, quantization rules, solution of Schroedinger equation in 1- and 3-D, the hydrogen atom, angular momentum, spin, boson, fermions, Time-independent perturbation theory. Offered Winter.
Prerequisites: MAT 2150 with a minimum grade of C-, PHY 3300 with a minimum grade of C-, and PHY 5100 with a minimum grade of C-

PHY 6410 Quantum Physics II Cr. 3
Applications of quantum mechanics: atoms in electric and magnetic fields, multielectron atoms, molecules, quantum statistics, solids (band structure, magnetic properties), nuclei, fundamental forces and standard model. Offered Fall.
Prerequisites: PHY 6400 with a minimum grade of C-

PHY 6450 Introduction to Material and Device Characterizations Cr. 4
Lecture/laboratory; introduction to analytic and measurement techniques for characterizing and evaluating materials, especially for potential applicability in sensor and integrated devices. Techniques include diffraction and microscopy methods, electron spectroscopies, and electrical, optical and magnetic measurements. Offered for graduate credit only. Offered Winter.
Prerequisite: (PHY 7050 (may be taken concurrently) or ECE 5500 (may be taken concurrently) or ECE 5550 (may be taken concurrently))
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $60

PHY 6480 Introduction to Quantum Computing Cr. 3
Serves as an introduction to quantum computing and brings together students with different backgrounds in mathematics, physics, chemistry, and computer science to foster interdisciplinary connections in the areas of quantum computing and quantum information. A strong background in linear algebra over the complex numbers as well as differential and integral calculus is required. Familiarity with quantum physics and complexity theory will be helpful, but it is not required. Offered Every Term.
Equivalent: MAT 6480

PHY 6500 Thermodynamics and Statistical Physics Cr. 4
Laws of thermodynamics, thermodynamic equilibrium, applications of kinetic theory of gases, basic introduction to classical and quantum statistical description of physical systems with large numbers of particles. Offered Fall.
Prerequisites: PHY 3300 with a minimum grade of C- and PHY 5100 with a minimum grade of C-

PHY 6570 Smart Sensor Technology I: Design Cr. 4
Introduction to various types of sensors and the design of basic analog VLSI circuit building blocks. Offered Winter.
Equivalent: BME 6470, ECE 6570

PHY 6600 Electromagnetic Fields I Cr. 3
Topics include electrostatics, solution of Laplace equation, dielectric media, electric current, magnetic field of steady currents, magnetic properties of matter, electromagnetic induction. Offered Fall.
Prerequisite: PHY 5100 with a minimum grade of C- and PHY 5200 with a minimum grade of C- and MAT 2150 with a minimum grade of C-

PHY 6610 Electromagnetic Fields II Cr. 3
Continuation of PHY 6600: Maxwell equations, electromagnetism and relativity, optics, wave guides and transmission lines, radiation of EM waves. Offered Winter.
Prerequisite: PHY 6600 with a minimum grade of C-

PHY 6750 Applied Computational Methods Cr. 2
Development of concepts learned in PHY 3750 or PHY 3310 for computer applications in physics research, including applications in theoretical physics, data fitting, image analysis, and integration with experimental equipment. There will be opportunities for independent as well as group projects. Offered Fall.
Prerequisite: PHY 3750 with a minimum grade of C- or PHY 3310 with a minimum grade of C-

PHY 6780 Research Methods in Biomedical Physics Cr. 3
Satisfies General Education Requirement: Writing Intensive Competency
Introduction to laboratory experience in biomedical physics research. Capstone course for biomedical physics majors. Offered Winter.
Prerequisites: PHY 3700 with a minimum grade of C- and PHY 4700 with a minimum grade of C-

PHY 6850 Modern Physics Laboratory Cr. 2
Satisfies General Education Requirement: Writing Intensive Competency
Techniques and experiments in physics of atoms, atomic nuclei, molecules, the solid state and other areas that have advanced our modern understanding of physics. Offered Winter.
Prerequisites: PHY 3300 with a minimum grade of C-
Course Material Fees: $25

PHY 6860 Computational Physics Cr. 3
Introduction to use of computers to model physical systems; description of techniques in numerical analysis including linear algebra, integration, algebraic and differential equations, data analysis and symbolic algebra. Offered Fall.
Prerequisites: PHY 3310 with a minimum grade of C- or PHY 5100 with a minimum grade of C-

PHY 6991 Special Topics Cr. 1-4
Topics and prerequisites for each section to be announced in Schedule of Classes . More than one section may be elected in a semester. Offered for graduate credit only. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 4 Credits

PHY 6992 Physics Graduate Teaching Assistant Training Cr. 1
Students solve and discuss problems from calculus-based general physics courses in front of their peers and instructor, enhancing their ability to analyze, interpret and present the material in a clear, informative way. Offered for graduate credit only. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.

PHY 7010 Modern Physics for Secondary School Educators Cr. 3
Development of relativity and quantum mechanics. Emphasis on nuclear physics and elementary particles. Required math: algebra and trigonometry. Offered Fall, Spring/Summer.
Prerequisite: PHY 2130 with a minimum grade of C- and PHY 2140 with a minimum grade of C-
Restriction(s): Enrollment is limited to Graduate level students.

PHY 7050 Survey of Condensed Matter Physics Cr. 3
Contemporary solid state physics dealing primarily with experiments in this area and with modern descriptive models of solids. Offered Winter.
Prerequisite: PHY 6400 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

PHY 7060 Survey of Elementary Particle Physics Cr. 3
Fundamental interactions and the basic particles; introduction to quantum mechanical treatment of decay, scattering, spin, internal symmetries; introduction to quantum field theory; gauge theories; the standard model and proposed modifications; experimental evidence; survey of experimental methods, detector, accelerators and colliders. Offered Winter.
Prerequisite: PHY 6400 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

PHY 7070 Survey of Nuclear Physics Cr. 3
Survey of nuclear decay, nuclear structures, nuclear interactions and reactions, nuclear models, conservative laws and subnuclear particles. Offered Winter.
Prerequisite: PHY 6400 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

PHY 7110 Methods of Theoretical Physics II Cr. 3
Complex variables and their applications. Homogeneous and inhomogeneous differential equations. Special functions such as gamma functions, Bessel functions, Legendre functions, Hermite functions and Laguerre functions. Fourier series. Offered Fall.
Prerequisite: PHY 5100 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

PHY 7200 Advanced Mechanics Cr. 3-4
Variational principles, central forces, transformation theory, Hamilton-Jacobi theory. Offered Winter.
Prerequisite: PHY 5210 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

PHY 7400 Quantum Mechanics I Cr. 3
Physical and mathematical principles of quantum mechanics. Schrodinger equation and its applications. Spin and angular momentum in quantum mechanics. The WKB approximation. Perturbation theory for time-independent and time-dependent cases. Offered Fall.
Prerequisite: PHY 6410 with a minimum grade of C and PHY 7110 (may be taken concurrently) with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

PHY 7410 Quantum Mechanics II Cr. 3
Scattering theory. Partial wave expansion and perturbation theory. Bound states. Symmetry principles and conservation laws. The path integral formalism. Entanglement. Quantum computation. Charged particles in electromagnetic fields. Quantum theory of radiation. Relativistic one-particle equations Offered Winter.
Prerequisite: PHY 7400 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

PHY 7500 Statistical Mechanics Cr. 4
Classical and quantum statistical mechanics and applications. Offered Fall.
Prerequisite: PHY 6500 with a minimum grade of C and PHY 7400 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

PHY 7550 Advanced Condensed Matter Physics: Solid State Cr. 3
Current topics in condensed matter physics, including electronic band structure, magnetism, superconductivity, nanophysics, and the optical properties of solids. Offered Every Other Fall.
Prerequisite: PHY 7050 with a minimum grade of C and PHY 7110 with a minimum grade of C and PHY 7400 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

PHY 7560 Advanced Condensed Matter Physics: Soft Matter Cr. 3
Current topics in condensed matter physics, including the building blocks, structures, physical properties, and phase transitions in a variety of complex fluid systems such as simple liquids and liquid mixtures, colloids, polymers, liquid crystals, amphiphiles, and soft matter in living organisms. Offered Every Other Winter.
Prerequisite: PHY 7050 with a minimum grade of C and PHY 7110 with a minimum grade of C and PHY 7400 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

PHY 7580 Smart Sensor Technology II: Characterization and Fabrication Cr. 4
Integration of ongoing research in integrated technology of smart sensors. Design of smart sensor devices using computer simulation. Fabrication of smart sensor. Offered Spring/Summer.
Prerequisite: PHY 6570 with a minimum grade of B- or ECE 6570 with a minimum grade of B- or BME 6470 with a minimum grade of B-
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $50
Equivalent: BME 7470, ECE 7570

PHY 7600 Electromagnetic Theory I Cr. 3
Microscopic and macroscopic Maxwell's equations, special relativity, Lagrangian and Hamiltonian formulation of EM theory, energy-momentum tensor, conservation laws, radiation, scattering, applications. Offered Winter.
Prerequisite: PHY 6610 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

PHY 7610 Electromagnetic Theory II Cr. 3
Continuation of PHY 7600. Offered Fall.
Prerequisite: PHY 7600 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

PHY 7990 Directed Study Cr. 1-3
Application forms available in department office. Primarily for graduate students in physics who wish to study material not covered in regular courses. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 6 Credits

PHY 7996 Research in Physics Cr. 1-4
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 12 Credits

PHY 7999 Master's Essay Direction Cr. 1-3
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students with a class of Candidate Masters.

PHY 8800 Advanced Nuclear Physics Cr. 3
Research topics in nuclear physics such as: relativistic heavy ion physics, nuclear/nucleon models, and many body theory. Covers both theory and experimental methods. Offered Every Other Winter.
Prerequisite: PHY 7070 with a minimum grade of C and PHY 7110 with a minimum grade of C and PHY 7410 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

PHY 8810 Advanced Particle Physics Cr. 3
Advanced elementary particle physics including weak, electromagnetic, and strong interactions. Rudiments of experimental devices and techniques at level appropriate to both experimentally- and theoretically-oriented students. Offered Every Other Fall.
Prerequisite: PHY 7060 with a minimum grade of C and PHY 7110 with a minimum grade of C and PHY 7410 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

PHY 8850 Quantum Theory of Fields I Cr. 3
Introduction to quantum field theory, classical and path integral quantization of scalar, spinor, and vector fields, gauge theories, interactions and Feynman rules, modal field theories, Hubbard model, introduction to renormalization Suitable for both students of theory and experiment in the fields of nuclear, particle, and condensed matter physics and astrophysics. Offered Every Other Fall.
Prerequisite: PHY 7110 with a minimum grade of C and PHY 7410 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

PHY 8860 Quantum Theory of Fields II Cr. 3
Symmetry and symmetry breaking. Goldstone theorem and Higgs effect, renormalization group, collective phenomena, superfluids and superconductivity, the Standard Model of electroweak interactions, effective field theories. Appropriate for students in fields of nuclear, particle, condensed matter physics and astrophysics. Offered Every Other Winter.
Prerequisite: PHY 8850 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

PHY 8991 Special Topics Cr. 1-3
Topics and prerequisites for each section to be announced in Schedule of Classes . More than one topic may be elected in a semester. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 12 Credits

PHY 8995 Colloquium Cr. 1
Must be elected every semester by all graduate physics students. Lectures given by external visitors and graduate faculty. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Graduate level students.

PHY 8999 Master's Thesis Research and Direction Cr. 1-8
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students with a class of Candidate Masters.
Repeatable for 8 Credits

PHY 9990 Pre-Doctoral Candidacy Research Cr. 1-8
Research in preparation for doctoral dissertation. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 12 Credits

PHY 9991 Doctoral Candidate Status I: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.

PHY 9992 Doctoral Candidate Status II: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: PHY 9991 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

PHY 9993 Doctoral Candidate Status III: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: PHY 9992 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

PHY 9994 Doctoral Candidate Status IV: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: PHY 9993 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

PHY 9995 Candidate Maintenance Status: Doctoral Dissertation Research and Direction Cr. 0
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $370.26
Repeatable for 0 Credits

POL - POLISH

POL 1010 Elementary Polish I Cr. 4
Development of practical skills in understanding, reading, speaking and writing Polish; emphasis on fundamental communication skills. Offered Fall.
Course Material Fees: $5

POL 1020 Elementary Polish II Cr. 4
Continuation of POL 1010. Development of practical skills in understanding, reading, speaking and writing Polish; emphasis on fundamental communication skills. Offered Winter.
Prerequisites: POL 1010 with a minimum grade of D-
Course Material Fees: $5

POL 2010 Intermediate Polish Cr. 4
Satisfies General Education Requirement: Foreign Culture, Global Learning Inquiry
Further development of Polish language and cultural proficiency through listening, reading, speaking and writing activities, and examination of Polish culture. Completion of this course fulfills the General Education requirement for foreign language and culture. Offered Fall.
Prerequisites: POL 1020 with a minimum grade of D-
Course Material Fees: $5

POL 2030 Polish Conversation Cr. 1
Development of Polish oral language skills through intensive speaking and listening practice. Offered Intermittently.
Prerequisites: POL 2010 with a minimum grade of D-
Repeatable for 4 Credits

POL 2035 Polish Conversation II Cr. 1
Students develop speaking and listening comprehension skills discussing a variety of topics including work, leisure time, pets, living arrangements, cooking, fashion, and shopping. Particular attention is paid to expressing opinions and arguing a point. Offered Intermittently.
Prerequisites: POL 1020 with a minimum grade of D-

POL 2060 Composition and Conversation Cr. 4
For students with rudimentary knowledge of Polish. Vocabulary and aspects of grammar not discussed in the previous courses, practiced through oral and written composition and translation exercises. Offered Every Other Winter.
Prerequisites: POL 2010 with a minimum grade of D-
Repeatable for 8 Credits

POL 2710 Survey of Polish Culture Cr. 3
Satisfies General Education Requirement: Civ and Societies (CLAS only), Foreign Culture, Global Learning Inquiry
Introductory cultural survey from beginnings of Polish state to present. Polish society and cultural developments analyzed in comparative contexts. Offered Fall, Winter.

POL 3000 Polish Grammar and Usage Cr. 4
Comprehensive review of Polish grammar; proper usage, vocabulary expansion. For intermediate or advanced-level students, including heritage speakers. Offered Every Other Year.
Prerequisites: POL 2010 with a minimum grade of D-

POL 3030 Language Skills: Advanced Speaking and Writing Cr. 2-4
Original texts and audio-visual materials used to further knowledge of Polish language. Special attention paid to vocabulary enrichment, colloquial usage and idioms needed for achieving independent expression in the Polish language. Offered Every Other Fall.
Prerequisites: POL 2060 with a minimum grade of D-

POL 3060 Medical Polish I Cr. 1
One of two online Polish language courses designed to teach vocabulary used in the medical field. POL 3060 focuses on the human musculoskeletal and digestive systems, their diseases and treatments, medical facilities and doctor-patient interactions. Offered Fall, Winter.
Prerequisites: POL 1020 with a minimum grade of D-
Restriction(s): Enrollment is limited to Undergraduate level students.

POL 3061 Medical Polish II Cr. 1
One of two online Polish language courses designed to teach vocabulary used in the medical field. POL 3061 focuses on the human cardiovascular and respiratory systems, their diseases and treatments, on dentistry, and on doctor-patient interactions. Offered Fall, Winter.
Prerequisites: POL 1020 with a minimum grade of D-
Restriction(s): Enrollment is limited to Undergraduate level students.

POL 3410 New Soil, Old Roots: The Immigrant Experience Cr. 3
Satisfies General Education Requirement: Civ and Societies (CLAS only), Diversity Equity Incl Inquiry, Foreign Culture, Global Learning Inquiry
Armenian, German, Jewish, Polish, Russian and Ukrainian immigration to the United States, its effects on the cultures (language, literature, religion, politics, music, art and theatre) of these ethnic groups and its influence upon American culture. Offered Fall.
Equivalent: ARM 3410, GER 3410, RUS 3410, SLA 3410

POL 3700 The Changing Face of Europe Cr. 1-2
Special topics relating to Central, Eastern and Western Europe. Offered Intermittently.
Equivalent: GER 3700, RUS 3700, SLA 3700

POL 3750 Polish and Yugoslavian Cinema Cr. 3
Satisfies General Education Requirement: Cultural Inquiry, Visual Performing Arts
Two national cinemas introduced through milestone films and lesser-known cinematic gems produced before and after the fall of communism. Offered Every Other Winter.
Equivalent: SLA 3750

POL 3800 Topics in Slavic Studies Cr. 3
Special topics relating to Slavic languages, literatures and cultures, such as drama, the Gulag, and contemporary culture. Offered Yearly.
Equivalent: RUS 3810, SLA 3800
Repeatable for 9 Credits

POL 3990 Directed Study Cr. 1-3
For students desiring additional work in the language at the intermediate level; for programs of work not included in scheduled course, either in language or literature. Offered Every Term.
Prerequisites: POL 2010 with a minimum grade of D-
Repeatable for 6 Credits

POL 5990 Directed Study Cr. 1-3
Offered Every Term.
Prerequisites: POL 3020 with a minimum grade of D-
Repeatable for 12 Credits

POL 5993 Writing Intensive Course in Polish Cr. 0
Satisfies General Education Requirement: Writing Intensive Competency
Disciplinary writing assignments under the direction of a faculty member. Must be selected in conjunction with a designated corequisite; see section listing in Schedule of Classes for corequisites available each term. Satisfies the University General Education Writing Intensive Course in the Major requirement. Required for all majors. Offered Fall, Winter.
Prerequisites: AFS 2390 with a minimum grade of C or ENG 2390 with a minimum grade of C or ENG 3010 with a minimum grade of C or ENG 3020 with a minimum grade of C or ENG 3050 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students.

POL 5999 Internship in Polish Studies Cr. 3
Internship in a public or private organization related to Polish studies. Offered for undergraduate credit only. Offered Every Term.
Prerequisite: POL 3000 with a minimum grade of C- or POL 3030 with a minimum grade of C- or POL 3060 with a minimum grade of C-
Restriction(s): Enrollment is limited to students with a major, minor, or concentration in Slavic Studies or Slavic Studies Honors.

PPR - PHARMACY PRACTICE

PPR 4115 Social Administrative Sciences and Professional Development I Cr. 2
Designed to familiarize the student with pharmacy as a profession and to facilitate an understanding of its place in health care today and in the future. Offered Fall.
Restriction(s): Enrollment limited to students in the Doctor of Pharmacy program.

PPR 4245 Patient Care Lab 1 Cr. 1
The Patient Care Lab sequence (PCL 1-4) is designed to allow students to begin to develop the direct patient care and pharmacy practice skills they will need to become successful practitioners. Offered Winter.
Restriction(s): Enrollment limited to students in the Doctor of Pharmacy program.
Course Material Fees: $40

PPR 4255 Social Administrative Sciences and Professional Development II Cr. 2
Exploration of health care delivery and payment systems, with an emphasis on pharmacy and pharmacists. Discussion of social constructs, cultural sensitivity, and health belief models as related to pharmacy practice. Offered Winter.
Restriction(s): Enrollment limited to students in the Doctor of Pharmacy program.

PPR 4315 Pharmacy Jurisprudence Cr. 2
Application of Michigan state and federal laws to the practice of pharmacy. Offered Spring/Summer.
Restriction(s): Enrollment limited to students in the Doctor of Pharmacy program.

PPR 4365 Introductory Pharmacy Practice Experience I Cr. 1
Satisfies General Education Requirement: Writing Intensive Competency
Beginning learning experiences for patient interviewing and counseling, interaction with healthcare professionals, pharmacy practice in various settings, interprofessional education, healthcare in the underserved population, and community service. Offered Spring/Summer.
Restriction(s): Enrollment limited to students in the Doctor of Pharmacy program.

PPR 5145 Patient Care Lab II Cr. 1
The Patient Care Lab sequence (PCL 1-4) is designed to allow students to begin to develop the direct patient care and pharmacy practice skills they will need to become successful practitioners. Offered Fall.
Restriction(s): Enrollment limited to students in the Doctor of Pharmacy program.
Course Material Fees: $40

PPR 5155 Social Administrative Sciences and Professional Development III: Practice Management Cr. 2
Focus on topics that will enable an understanding of how pharmacy services are managed and how to manage personnel and provide leadership. Offered Fall.
Restriction(s): Enrollment limited to students in the Doctor of Pharmacy program.

PPR 5165 Introductory Pharmacy Practice Experience II Cr. 1
Beginning learning experiences for patient interviewing and counseling, interaction with healthcare professionals, pharmacy practice in various settings, interprofessional education, healthcare in the underserved population, and community service. Offered Fall.
Restriction(s): Enrollment limited to students in the Doctor of Pharmacy program.

PPR 5215 Applied Pharmacokinetics and Pharmacogenomics Cr. 2
Application of knowledge of pharmacokinetics and pharmacogenomics to patient-specific drug dosing. Offered Winter.
Prerequisite: PSC 5115
Restriction(s): Enrollment limited to students in the Doctor of Pharmacy program.

PPR 5245 Patient Care Lab III Cr. 1
The Patient Care Lab sequence (PCL 1-4) is designed to allow students to begin to develop the direct patient care and pharmacy practice skills they will need to become successful practitioners. Offered Winter.
Restriction(s): Enrollment limited to students in the Doctor of Pharmacy program.
Course Material Fees: $40

PPR 5255 Social Administrative Sciences and Professional Development IV Cr. 2
Designed to enable understanding of the importance of constructing medication systems and processes around proven best practices to maximize patient safety and to begin developing the ability to conceptualize, implement, and manage these systems in all health care settings. Offered Winter.
Restriction(s): Enrollment limited to students in the Doctor of Pharmacy program.

PPR 5265 Introductory Pharmacy Practice Experience III Cr. 1
The introductory pharmacy practice experiences are to provide a beginning learning experiences for patient interviewing and counseling, interaction with healthcare professionals, pharmacy practice in various settings, interprofessional education, healthcare in the underserved population, and community service. Offered Winter.
Restriction(s): Enrollment limited to students in the Doctor of Pharmacy program.

PPR 5990 Directed Study in Pharmacy Practice Cr. 2
No credit after election of two credits in any of PSC 5990, PSC 5991, PSC 5992, except by written consent of department chair. Offered Every Term.
Restriction(s): Enrollment is limited to Professional level students; enrollment limited to students in the Pharmacy and Health Sciences.

PPR 6115 Applied Therapeutics in Self-Care Cr. 2
Application of concepts of patient assessment, therapeutics, patient education, and health care systems to patient self-care. Offered Fall.
Restriction(s): Enrollment limited to students in the Doctor of Pharmacy program.

PPR 6145 Patient Care Lab IV Cr. 1
The Patient Care Lab sequence (PCL 1-4) is designed to allow students to begin to develop the direct patient care and pharmacy practice skills they will need to become successful practitioners. Offered Fall.
Restriction(s): Enrollment limited to students in the Doctor of Pharmacy program.
Course Material Fees: $40

PPR 6155 Social Administrative Sciences and Professional Development V Cr. 3
Development of and justification for a pharmacy service, including background, service objectives, service design, implementation plan, and evaluation. Offered Fall.
Restriction(s): Enrollment limited to students in the Doctor of Pharmacy program.

PPR 6165 Community-Introductory Pharmacy Practice Experience (C-IPPE) Cr. 2
Introduction to the organization and provision of community pharmacy services. Offered Fall, Winter.
Restriction(s): Enrollment limited to students in the Doctor of Pharmacy program.

PPR 6175 Hospital-Introductory Pharmacy Practice Experience (H-IPPE) Cr. 2
Introduction to the organization and provision of health-system pharmacy services. Offered Fall, Winter.
Restriction(s): Enrollment limited to students in the Doctor of Pharmacy program.

PPR 6235 Social Administrative Sciences and Professional Development V Cr. 2
Understanding, developing and evaluating population health and population-based health care programs. Offered Winter.
Restriction(s): Enrollment limited to students in the Doctor of Pharmacy program.

PPR 6245 Pharmacy Ethics and Professional Responsibility Cr. 2
Understanding ethical precepts and applying normative principles to the practice of pharmacy in the context of professional service to the community. Offered Winter.
Restriction(s): Enrollment limited to students in the Doctor of Pharmacy program.

PPR 6295 Clinical Capstone Cr. 2
Utilization of pharmacotherapeutic-related knowledge and skills to evaluate patient cases and practice-related problems in order to assess students' preparedness for advanced pharmacy practice experiences. Offered Winter.
Restriction(s): Enrollment limited to students in the Doctor of Pharmacy program.
Course Material Fees: $90

PPR 6300 Patient Perspectives of Health, Illness and Culture Cr. 2
People from various cultures (religious, ethnic, sexual orientation, disability, chronic illness, economic status) discuss in small groups how these cultures influence living with a chronic illness. Students also discuss readings on health culture and keep a journal on their course experience. Offered Spring/Summer.
Restriction(s): Enrollment is limited to Professional level students; enrollment limited to students in the Pharmacy and Health Sciences.
Equivalent: OT 6320

PPR 6320 Underserved Care: Local and Global Experiences Cr. 2
Provides the opportunity for hands-on clinical experience in local and international under-served communities. Offered Every Term.
Restriction(s): Enrollment limited to students in the Doctor of Pharmacy program.

PPR 6520 Contemporary Issues in Nutrition Support Cr. 2
Provision of patient care in cooperation with patients. patients' agents, prescribers, and other members of an interprofessional health care team; management and use of resources of the health care system; evaluation of a patient case and design of an optimal nutritional regimen. Offered Spring/Summer.
Restriction(s): Enrollment is limited to Professional level students; enrollment limited to students in the Pharmacy and Health Sciences.

PPR 6550 Psychiatric Pharmacy Cr. 2
Covers core clinical sciences beyond the required pharmacotherapy modules on psychiatric topics. Offered Spring/Summer.
Prerequisite: PHA 5155 or PHA 5225

PPR 6560 Foundations in Global Health Cr. 2
Provides pharmacy students an introduction to Global Health and enables them to explore their own Global Health interests through local volunteering, class discussions and group projects. Offered Fall.
Restriction(s): Enrollment limited to students with a class of PharmD Yr 3 or PharmD Yr 4; enrollment limited to students in the Doctor of Pharmacy program.

PPR 6580 Contemporary Issues in Anticoagulation Management Cr. 2
Advanced therapeutics in area of anticoagulant use. Offered Fall.
Restriction(s): Enrollment is limited to Professional level students; enrollment limited to students in the Pharmacy and Health Sciences.

PPR 6590 Principles of Pain Management Cr. 2
Covers core clinical sciences beyond the required pharmacotherapy modules on pain management topics. And expands on the pathophysiology, pharmacology, and therapeutics covered in the core clinical sciences courses to assist the student pharmacist in developing assessment skills emphasizing inter-professional collaboration. Offered Winter.
Prerequisites: PHA 5225
Restriction(s): Enrollment is limited to Professional level students; enrollment limited to students in the Pharmacy and Health Sciences.

PPR 6720 Clinical Applications of Diabetes Cr. 2
Advanced elective course on management of diabetes mellitus and its related disorders. Principles of student directed learning, literature discussion and evaluation, interprofessional exposure, small group learning, and hands-on activities. Offered Fall.
Restriction(s): Enrollment is limited to Professional level students; enrollment limited to students in the Pharmacy and Health Sciences.

PPR 6740 Adv Tpcs: Amb Care Pharm Cr. 2
The overall goal of this course is to increase pharmacy students' knowledge of practice models for ambulatory care pharmacy and investigate career opportunities in ambulatory care pharmacy practice. Offered Winter.
Restriction(s): Enrollment limited to students in the Doctor of Pharmacy program.

PPR 6770 Study of Medicinal Plants and Culture in Amazonia Cr. 2
Ethnobotany of indigenous plants and use of these substances in the health and beliefs of the native people. Students meet with botanists, taxonomists, pharmacists, shamans, and native people. Offered Spring/Summer.
Restriction(s): Enrollment is limited to Professional level students; enrollment limited to students in the Pharmacy and Health Sciences.

PPR 6860 Principles of Pediatric Pharmacy Cr. 2-3
Common pediatric problems and diseases including poisonings, cystic fibrosis, sickle-cell anemia, placental transfer of drugs and teratology. Offered Yearly.
Restriction(s): Enrollment is limited to Professional level students; enrollment limited to students in the Pharmacy and Health Sciences.

PPR 7195 Advance Research Scholars: Advance Pharmacy Practice Experience Cr. 4
Provides capstone research instruction aimed at project completion, writing and peer review processes, and research program advancement. Offered Fall.
Restriction(s): Enrollment limited to students in the Doctor of Pharmacy program.

PPR 7225 Vaccines in Clinical and Public Health Practice Cr. 2
Explorations of topics related to use of vaccines for infants, children and adults in practice settings that include clinics, pharmacies and public health programs. Offered Yearly.
Restriction(s): Enrollment limited to students with a class of PharmD Yr 2 or PharmD Yr 3; enrollment limited to students in the Doctor of Pharmacy or Master in Public Health programs.

PPR 7410 Advanced Pharmacy Practice Inpatient/Acute Care Cr. 4
Experimental education designed to provide practical training experience in managing drug therapy of patients in a variety of health-care settings. Offered Every Term.
Restriction(s): Enrollment is limited to Professional level students; enrollment limited to students in the Pharmacy and Health Sciences.
Course Material Fees: $85
Repeatable for 12 Credits

PPR 7420 Advanced Pharmacy Practice Ambulatory Care Cr. 4
Experimental education designed to provide practical training experience in managing drug therapy of patients in a variety of health-care settings. Offered Every Term.
Restriction(s): Enrollment is limited to Professional level students; enrollment limited to students in the Pharmacy and Health Sciences.
Repeatable for 12 Credits

PPR 7430 Advanced Pharmacy Practice Patient Care Core Cr. 4
Experimental education designed to provide practical training experience in managing drug therapy of patients in a variety of health-care settings. Offered Every Term.
Restriction(s): Enrollment is limited to Professional level students; enrollment limited to students in the Pharmacy and Health Sciences.
Repeatable for 12 Credits

PPR 7530 Advanced Pharmacy Practice Patient Care Elective I Cr. 4
Experimental education designed to provide practical training experience in managing drug therapy of specialized patients in diversified health-care settings. Offered Every Term.
Restriction(s): Enrollment is limited to Professional level students; enrollment limited to students in the Pharmacy and Health Sciences.
Repeatable for 8 Credits

PPR 7540 Advanced Pharmacy Practice Non-Patient Care Elective I Cr. 4
Practical education to develop knowledge in specific areas of pharmacy practice in specialized pharmacy or health-care settings. Offered Every Term.
Restriction(s): Enrollment is limited to Professional level students; enrollment limited to students in the Pharmacy and Health Sciences.
Repeatable for 8 Credits

PPR 7550 Advanced Pharmacy Practice Hospital Cr. 4
Practical training experience in hospital pharmacy practice, including pharmacy operations and clinical services. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate or Professional level students; enrollment limited to students in the Pharmacy and Health Sciences.

PPR 7560 Advanced Pharmacy Practice Community Cr. 4
Practical training experience in management of a community pharmacy, and managing drug therapy of patients in community pharmacy setting. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate or Professional level students; enrollment limited to students in the Pharmacy and Health Sciences.

PPR 7960 Economic Evaluation of Health Care Interventions Cr. 2-3
Designed for advanced professional students (3rd year pharmacy, medicine, health sciences), students in the Master of Public Health degree program, graduate students and Fellows who would like an introduction to cost-effectiveness analysis. Offered Spring/Summer.
Restriction(s): Enrollment is limited to Professional level students; enrollment limited to students in the Pharmacy and Health Sciences.

PPR 7990 Directed Study in Pharmacy Practice Cr. 1-3
Minor projects in pharmacy for students whose interests and needs are not adequately met in other scheduled classes or in the doctoral research project. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate or Professional level students; enrollment limited to students in the Pharmacy and Health Sciences.

PS - POLITICAL SCIENCE

PS 1000 Introduction to Political Science Cr. 3
Satisfies General Education Requirement: Civic Literacy, Social Inquiry, Social Sciences
Introduction to the scope and method of political science. Overview of politics, political systems, nature and role of political institutions. Empirical political theory; practice in conducting political research. Offered Yearly.

PS 1010 American Government Cr. 4
Satisfies General Education Requirement: American Society Institution, Civic Literacy, Social Inquiry
Politics and functions of American governmental institutions. Policy processes and the role of citizens in the political process. No credit after PS 1030. Offered Every Term.

PS 1030 The American Governmental System Cr. 3
Satisfies General Education Requirement: American Society Institution, Civic Literacy, Social Inquiry
Structure and functions of the American political system. Governmental institutions and processes. No credit after PS 1010. Offered Every Term.

PS 1050 Understanding Political Science Statistics Cr. 4
Satisfies General Education Requirement: Quantitative Experience Comp
Applications of elementary statistical methods to the study of American government, comparative politics, and international relations. Offered Fall, Winter.
Equivalent: STA 1020

PS 2000 Introduction to Urban Studies Cr. 4
Satisfies General Education Requirement: Social Inquiry, Social Sciences
Urban phenomena both past and present, including the quality and nature of urban life; major concerns of urban areas; perspectives and techniques of various urban-related disciplines. Offered Every Term.
Equivalent: GPH 2000, HIS 2000, SOC 2500, US 2000

PS 2206 Political Sociology Cr. 3
Examines the sociology of politics and explores sociological analysis of political processes in the United States. Offered Every Other Year.
Equivalent: SOC 2206

PS 2240 Introduction to Urban Politics and Policy Cr. 4
Satisfies General Education Requirement: Social Inquiry, Social Sciences
Influences on politics and problems of cities, forms of local political involvement, role of local public officials, impact of state and federal policies. Overview of current issues and problems in specific policy areas. Offered Yearly.

PS 2310 Introduction to Public Administration Cr. 4
Governmental and administrative structures and organizations. Concepts and techniques of public management. Impact of public bureaucracies on modern society. Offered Every Term.
Prerequisites: PS 1010 with a minimum grade of D- or PS 1030 with a minimum grade of D-

PS 2410 Introduction to Public Policy Cr. 4
Public policy-making institutions and processes. Emphasis on theory and practice of policy formation, implementation and evaluation. Various models of political decision making. Offered Every Term.
Prerequisites: PS 1010 with a minimum grade of D- or PS 1030 with a minimum grade of D-

PS 2420 Ethics and Politics of Public Policy Cr. 4
Moral and political standards for policy-making, relation of major political and social theorists to policy issues such as economic inequality, racial and sexual discrimination, the enforcement of morals, and violence and social change. Offered Yearly.

PS 2440 Science, Technology, and War Cr. 4
Modern weapons, nuclear and otherwise are becoming increasingly available and dangerous; people with grievances seem eager to use them. Science and technology, as well as constraints of bureaucracy and society underpin weapons development and use, as technologies affect prospects and results of war and peace. History of humanity and its tools of war. Offered Yearly.
Equivalent: HIS 2510, PCS 2020, PHY 2020

PS 2460 Policy and Rationality: Dilemmas of Choice Cr. 4
Individual decision-making and limitations on human cognition; collective choice; implications for policy development. Offered Yearly.

PS 2510 Introduction to Political Ideologies Cr. 4
Comparison of ideologies, political institutions, and economic systems. Democracy and authoritarianism, capitalism, socialism and communism contrasted. Offered Yearly.

PS 2550 The Study of Non-Violence Cr. 3
Satisfies General Education Requirement: Diversity Equity Incl Inquiry
Intellectual and social roots of non-violence and the practice of non-violence in different people's life styles. Historical and political forces and movements related to non-violence. (Some sections linked to Peace and Justice Learning Community.) Offered Every Term.
Equivalent: HIS 2530, PCS 2050, SOC 2050

PS 2700 Introduction to Canadian Studies Cr. 3
Satisfies General Education Requirement: Foreign Culture, Global Learning Inquiry
Survey of Canada in its cultural, literary, historical, geographical and political aspects; key concepts and social patterns that define the Canadian experience. Offered Yearly.
Equivalent: ENG 2670, GPH 2700, HIS 2700

PS 2710 Introduction to Comparative Politics Cr. 4
Comparison of the political cultures, politics, and political institutions of Eastern, Western, and Southern European political systems. Similarities and differences in public policies; European influence; parallels in developing nations. Offered Every Other Year.

PS 2810 World Politics Cr. 4
Role of power, methods of resolving international conflict, economic relations between industrialized and Third World countries, multinational corporations, terrorists, and other non-state actors. Offered Yearly.

PS 2820 Introduction to Peace and Conflict Studies Cr. 3
Introduction to the peace and conflict studies co-major. Survey, ranging from biology and conflict among animals to disputes involving the individual, the family, the neighborhood and region, the nation and global or international community. Definitions and approaches to peace. (Some sections linked to Peace and Justice Learning Community.) Offered Yearly.
Equivalent: HIS 2500, PCS 2000

PS 2830 Topics in Peace and Conflict Studies Cr. 1-4
Special topics relating to peace and conflict studies. Offered Every Term.
Equivalent: HIS 2520, PCS 2010
Repeatable for 12 Credits

PS 2992 Political Science Internship Cr. 1-4
Internship in a public or quasi-public organization, agency, civic or voluntary group, or campaign organization. Collateral reading, written work and arranged conferences with faculty supervisor. Offered Every Term.
Repeatable for 4 Credits

PS 3010 Public Opinion and Political Behavior Cr. 4
Factors that shape public opinion; patterns of political participation and electoral politics. Impact of public opinion and popular participation on the political system. Offered Yearly.
Prerequisites: PS 1010 with a minimum grade of D- or PS 1030 with a minimum grade of D-

PS 3020 Political Parties and Elections Cr. 4
Development, structure, functions and operations of American political parties; their electoral and governmental roles; comparison with other systems; possible reforms. Offered Every Other Year.
Prerequisites: PS 1010 with a minimum grade of D- or PS 1030 with a minimum grade of D-

PS 3025 Political Campaigns in America Cr. 4
Nature and dynamics of campaigns for public office in the U.S. Campaign techniques and strategies in an era of candidate-centered American politics. Offered Intermittently.

PS 3030 Political Interest Groups Cr. 4
Structure, techniques and internal politics of interest groups, their roles in policy-making and relationship with other groups such as political parties, legislatures and administrative agencies. Offered Intermittently.
Prerequisites: PS 1010 with a minimum grade of D- or PS 1030 with a minimum grade of D-

PS 3040 The Legislative Process Cr. 4
Function, structure, procedures and politics of American legislative bodies with special attention to Congress. Relationships with other political institutions, especially the executive branch, and comparisons with foreign legislative institutions. Offered Yearly.
Prerequisites: PS 1010 with a minimum grade of D- or PS 1030 with a minimum grade of D-

PS 3050 Politics of the American Presidency Cr. 4
Constitutional, historical, and political bases of the presidency. Influence of courts, Congress, interest groups, the news media, and personality on the office. Offered Intermittently.
Prerequisites: PS 1010 with a minimum grade of D- or PS 1030 with a minimum grade of D-

PS 3060 State Government and Politics Cr. 4
A comparison of states in the United States in terms of their governmental structures, functions and response to changes in national and local relationships. Offered Every Other Year.

PS 3070 Michigan Politics Cr. 4
History and overview of Michigan politics: structure, process, current issues. Offered Every Term.

PS 3080 Gender and Politics Cr. 4
Satisfies General Education Requirement: Civic Literacy
Genesis and perpetuation of gender roles; feminist movements to modify these roles; impact of gender on public policy; gender-differentiated impact of public policy. Offered Intermittently.

PS 3100 American Legal Systems and Processes Cr. 4
Analysis of the institutional structure, processes and policy-making of the American judicial system, including the recruitment of lawyers and judges, the influence of legal rules on policy-making, and selected areas of judicial policy-making. Emphasis on federal and state appellate courts. Offered Yearly.

PS 3120 Politics of the Criminal Justice Process Cr. 3
Satisfies General Education Requirement: Civic Literacy
Political aspects of criminal justice; politics of crime legislation, police function, prosecution, adjudication, and corrections; Federal role in criminal justice. Offered Intermittently.
Equivalent: CRJ 3120

PS 3250 Detroit Politics: Continuity and Change in City and Suburbs Cr. 4
Satisfies General Education Requirement: Diversity Equity Incl Inquiry
Detroit area political systems and processes; historical, economic, and social influences on local politics. Traditions, changes, and future challenges in Detroit and metropolitan area. Offered Every Other Year.
Equivalent: HIS 3240

PS 3430 Bureaucracy and Public Policy Cr. 4
Theory and development of modern governmental bureaucracy. Bureaucratic politics and its significance for decision making and program implementation. Normative aspects of bureaucracy, including accountability to the public and the role of bureaucrats in helping to define rational, efficient policies. Offered Every Other Year.
Prerequisites: PS 1010 with a minimum grade of D- or PS 1030 with a minimum grade of D-

PS 3450 Environmental Policy and Politics Cr. 4
Introductiory course; primary focus on United States. Discussion of major environmental problems and their causes; environmental politics and the policy process. Offered Every Other Year.

PS 3510 Law, Authority and Rebellion Cr. 4
Satisfies General Education Requirement: Cultural Inquiry, Philosophy Letters
Analysis of major theories of law, authority, freedom, and political obligation; justifications of disobedience, resistance and revolution. Offered Every Other Year.

PS 3515 American Political Thought Cr. 3-4
American political culture and thought through modern history from 1930 to the present. Variety of interpretations of American political culture including conservative, liberal, Marxist, and post-modernist. Offered Every Other Year.

PS 3520 Justice Cr. 4
Satisfies General Education Requirement: Cultural Inquiry, Philosophy Letters
Analysis of major theories of justice; social, economic and political justice. Offered Every Other Year.

PS 3530 Great Political Thinkers I Cr. 4
Great political thinkers from Plato to Machiavelli. Offered Every Other Year.

PS 3540 Great Political Thinkers II Cr. 4
Great political thinkers from Machiavelli to the present. Offered Every Other Year.
Restriction(s): Enrollment is limited to Undergraduate level students.

PS 3600 Methods of Political Inquiry Cr. 4
Techniques of political science research: data gathering techniques, especially survey design; data processing and analysis using computers; and the interpretation and reporting of statistical results. Offered Every Term.

PS 3710 Politics of Western Europe Cr. 4
Western Europe: driving force in world politics over centuries; lofty principles and gruesome conflict. Origins of European political systems; twentieth-century crises; ongoing process of creating united Europe. Offered Every Other Year.

PS 3715 Politics of Central and Eastern Europe Cr. 4
Central and eastern Europe: crossroads of many world civilizations and birthplace of the movements that shaped the modern world. Rise and fall (and rise?) of nationalism, communism, and democracy in the region. Offered Every Other Year.

PS 3735 Politics of Latin America Cr. 4
Political, social, economic and cultural foundations, the structure and function of institutions, and political processes in Latin America. Offered Every Other Year.

PS 3770 Politics of East Asia Cr. 4
Survey of five major polities in East Asia: China, Taiwan, Japan, South Korea, and (more briefly) North Korea. Why some of them have undergone democratization and others have not; how political factors have affected their recent economic performance; what explains conflicts and cooperation among them, and what security implications they hold for the United States. Offered Every Other Year.
Restriction(s): Enrollment is limited to Undergraduate level students.
Equivalent: ASN 3770

PS 3795 Latin America in World Affairs Cr. 4
Latin America's position in the international system; relationships between Latin American countries and the United States. Offered Every Other Year.

PS 3811 Theory of World Politics Cr. 4
Major theoretical approaches. Evaluation of the extent to which theses that devolve from realist, idealist, globalist, culturalist, feminist and decision-making approaches allow the explication of phenomena in world politics. Offered Intermittently.
Prerequisites: PS 2810 with a minimum grade of D-

PS 3820 Pan Africanism: Politics of the Black Diaspora Cr. 4
Satisfies General Education Requirement: Global Learning Inquiry
Interplay of Pan Africanism as a cultural and socio-political movement in world politics from its origins as a concept to organizing practice worldwide. Offered Yearly.
Equivalent: AFS 3420

PS 3830 War Cr. 4
Major theoretical and methodological approaches to study of international conflict. Analysis of impact of domestic, state, and global system factors in explicating international war. Aspects of civil wars that have become internationalized. Offered Intermittently.
Prerequisite: PS 2810 with a minimum grade of C-

PS 3835 Middle East Conflict Cr. 4
International and regional factors affecting contemporary political landscape of the region: influence of European colonialism; emergence and persistence of Palestinian-Israeli conflict; contemporary developments in the Persian Gulf and the role of U.S. policy since 9/11. Discussion of topics of current interest such as the situation in Iraq and the prospects for democratic reform in the region. Offered Intermittently.
Restriction(s): Enrollment is limited to Undergraduate level students.

PS 3840 American Foreign Policy and Administration Cr. 4
Shaping and administering United States foreign policy; influences of Congress and interest groups on the White House; secrecy; and the foreign service. Offered Intermittently.

PS 3991 Directed Study: WSU-Salford Exchange Cr. 3-9
Credit earned through approved upper-division course work at the University of Salford, England, as part of the W.S.U.- Salford Exchange Program. Offered Fall, Winter.

PS 4460 Techniques of Policy Analysis Cr. 4
Introduction to several major techniques used by policy analysts to measure and evaluate the effectiveness, efficiency, and equity of public policies and programs. Approaches and methodologies considered will include systems analysis, benefit-cost analysis, and simulation. This course involves quantitative data analysis. Students are expected to be proficient in basic algebra and to be computer literate. Offered Yearly.
Course Material Fees: $5

PS 4710 Democracy Cr. 4
""The worst form of government except for all the others?"" How democracy has evolved from ancient Athens until today. What makes democracy work. How democratization is proceeding in Latin America, Europe, Africa, Asia. Offered Every Other Year.

PS 4725 Globalization and Politics Cr. 4
Domestic and international politics and globalization: theories and evidence. Consequences for economic development and democratization or economic inequality. Questions explored include: What is economic globalization? Is it really new? What caused its recent resurrection? What political disjunctions engendered the process and how do they vary within political institutions? How has it threatened sovereign nation-states, constrained governmental policy autonomy, and encouraged regional separatist movements? Offered Every Other Year.

PS 4810 Foreign Policies of Major Powers Cr. 4
Major issues and trends in the foreign policies of Russia, China, Japan, and the European Union. Offered Every Other Year.

PS 4850 International Organizations Cr. 4
Issues of global governance; role of international organizations in managing issues that cross borders. Offered Intermittently.
Restriction(s): Enrollment is limited to Undergraduate level students.

PS 4990 Directed Study Cr. 1-4
Independent study assignment under the direction of a faculty member. Offered Every Term.
Repeatable for 8 Credits

PS 4995 Senior Honors Paper Cr. 4
Completion of an extended examination of a topic or research question in political science, under the direction of one or more members of the departmental faculty. Offered Every Term.

PS 5030 African American Politics Cr. 4
Nature and texture of black politics; various perspectives on politics by blacks; the impact of blacks on American politics. Offered Every Other Year.
Equivalent: AFS 5030

PS 5040 Religion and Politics Cr. 4
Religion and American political culture; religious institutions and religious movements; church lobbying in national, state, and local governments; specific manifestations of religion and politics; African Americans, women and conservative Christians. Offered Every Other Year.
Prerequisites: PS 1010 with a minimum grade of D- or PS 1030 with a minimum grade of D-

PS 5050 Mass Media and Politics Cr. 3
Role of communications media in modern politics. Historical evolution of media; political impact of newspapers, radio and television; polling and the media; political advertising; media law; mass media and the future of American democracy. Offered Every Other Year.
Prerequisites: PS 1010 with a minimum grade of D- or PS 1030 with a minimum grade of D-

PS 5110 Constitutional Law Cr. 4
Examination of the power of judicial review, barriers to court review, distribution of powers in the national government, federal-state relations, federal-state power to regulate and tax interstate commerce, and protection of property through the due process clause. Offered Yearly.

PS 5120 Constitutional Rights and Liberties Cr. 4
The Bill of Rights and the Fourteenth Amendment's due process and equal protection clauses, including rights of criminal defendants, freedom of speech and religion, race and sex discrimination. Offered Yearly.

PS 5560 Biopolitics Cr. 4
Use of the perspective of the life sciences in the study of political behavior, political evolution, political institutions, and contemporary political issues. Offered Yearly.

PS 5630 Statistics and Data Analysis in Political Science I Cr. 4
Introduction to statistical description and inference in the study of politics, administration and public policy. Introduction to statistical analysis using microcomputers. Offered Every Term.
Course Material Fees: $5

PS 5710 Politics of Europe and the European Union Cr. 3
Comparative analysis of the politics, culture and societies of major European countries; investigation of the formation and operation of the European Union. Offered Intermittently.

PS 5740 Ethnicity: The Politics of Conflict and Cooperation Cr. 4
Current ethnic (racial, linguistic, religious, and cultural) conflicts regionally, nationally and internationally. Introduction to concepts and analytic perspectives for understanding ethnicity as a factor in nation building and maintenance. Offered Yearly.
Equivalent: AFS 5740, PCS 5500

PS 5760 History and Development of Islamic Political Thought Cr. 3
Historical analysis of political Islam through study of the precepts and historical vicissitudes impacting the Islamic world from within and from external forces. Offered Every Other Year.
Prerequisites: NE 2030 with a minimum grade of D- and NE 3040 with a minimum grade of D-
Equivalent: NE 5110

PS 5820 International Law Cr. 4
Sources of international law (treaty and custom); institutions of the international system and relationship to domestic law and the courts; state sovereignty; role of United Nations and other international organizations. Application of legal norms to contemporary armed conflicts and human rights catastrophes. Offered Intermittently.

PS 5830 International Conflict and Management Cr. 4
Types of international conflict and such methods of resolution as negotiation, mediation and other third-party procedures. Offered Intermittently.

PS 5850 Human Rights Cr. 4
Theoretical traditions that have inspired the human rights movement; critiques from liberal and conservative perspectives; international human rights treaties and efforts to implement their terms; controversies over cultural relativism, economic and social rights, treatment of women, and the question of non-intervention. Offered Every Other Year.

PS 5890 Dispute Resolution Cr. 3
Overview of the processes and actors in the field of dispute resolution including negotiation, mediation, arbitration, and conciliation. Offered Yearly.
Equivalent: CRJ 5994, PCS 5000, PSY 5710

PS 5991 Directed Study: WSU- Salford Exchange Cr. 3-9
Credit earned through approved upper-division course work at the University of Salford, England, as part of W.S.U.- Salford student exchange program. Offered for undergraduate credit only. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Undergraduate level students.

PS 5992 Political Science AGRADE Internship Cr. 4
Internship to supplement classroom course work with practical experience gained through substantial involvement in a responsible capacity in a public or quasi-public agency or civic organization. Offered Every Term.
Restriction(s): Enrollment is limited to Undergraduate level students.

PS 5993 Writing Intensive Course in Political Science Cr. 0
Satisfies General Education Requirement: Writing Intensive Competency
Disciplinary writing assignments under the direction of a faculty member. Must be selected in conjunction with a designated corequisite; see section listing in Schedule of Classes for corequisites available each term. Satisfies the University General Education Writing Intensive Course in the Major requirement. Required for all majors. Offered Every Term.
Prerequisites: AFS 2390 with a minimum grade of C or ENG 2390 with a minimum grade of C or ENG 3010 with a minimum grade of C or ENG 3020 with a minimum grade of C or ENG 3050 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students.

PS 5999 Special Topics in Political Science Cr. 1-4
Topics to be announced in Schedule of Classes . Offered Every Term.
Repeatable for 16 Credits

PS 6010 Political Psychology Cr. 3
Political attitudes and behavior of both ordinary citizens and political elites using theory and research that adopt a psychological perspective. Topics include: political socialization, ideological belief systems, role of mass media in shaping beliefs and attitudes, race and gender stereotypes and their psychological and political consequences, personality and the dynamics of political leadership. Offered Yearly.
Prerequisite: PSY 1010 with a minimum grade of D-
Equivalent: PSY 6020

PS 6020 Intergovernmental Relations and American Federalism Cr. 3
Legal, fiscal, political and administrative relationships among governments in the American federal system. Current issues and public policies which affect or are affected by intergovernmental relationships. Offered Every Other Year.

PS 6050 Class, Race, and Politics in America Cr. 3
Historical and analytic investigation into the role of class and race in American politics. Offered Intermittently.
Equivalent: AFS 6100, HIS 5110, SOC 7330, UP 7030

PS 6070 Labor and American Politics Cr. 3
Role of organized labor in American politics. Historical background, including rise of the UAW and its role in Detroit and Michigan politics. Recent declines; future of organized labor as a force in American politics. Offered Every Other Year.

PS 6100 Introduction to Graduate Peace and Security Studies Cr. 3
Survey of the peace and security studies fields at the graduate level. Offered for graduate credit only. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: PCS 6100

PS 6120 Administrative Law and Regulatory Politics Cr. 3
Constitutional and statutory status of bureaucratic agencies; administrative powers and procedures; judicial review of administrative decisions; Congressional oversight of bureaucracies. Offered Intermittently.

PS 6340 Public Sector Labor Relations Cr. 3
History, present functions, problems and current controversies surrounding public sector unions. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.

PS 6440 Regional, State, and Urban Economic Development: Policy and Administration Cr. 3
Examination of regional, state, and local economic development theory, analysis, policy and administration. Offered for graduate credit only. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: ECO 6650, UP 6550

PS 6455 Discrimination and Fair Housing Cr. 3
Multidisciplinary investigation into the nature, motivations, consequences, and legal/public policy implications of racial/ethnic discrimination in housing and related markets in U.S. metropolitan areas. Offered Intermittently.
Equivalent: AFS 6455, ECO 6455, SOC 6455, UP 6455, US 6455

PS 6640 Statistics and Data Analysis in Political Science II Cr. 3
Modern statistical theory applied to the study of politics, administration, and public policy. Multivariate analysis: multiple regression, logistic regression, path analysis, and factor analysis. Offered Yearly.
Prerequisite: PS 5630
Course Material Fees: $5

PS 6700 Financial Management for Nonprofit Organizations Cr. 3
Conducting financial management in nonprofit organizations. Topics include: legal responsibilities, cash versus accrual basis accounting, financial statements, fund accounting, fixed assets and depreciation, contributions and budgeting. Offered Yearly.

PS 6710 Introduction to Nonprofit Organizations Cr. 3
Topics include: nonprofit organizations and their history, types and characteristics, goals, external environment, legal framework, governance, leadership, management, and ethics. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.

PS 6720 Marketing, Development, and Grant Writing for Nonprofit Organizations Cr. 3
How nonprofit organizations locate and secure resources from the private sector, individual philanthropists, foundations, and governments, through marketing, development, and the writing and submission of grants. Offered for graduate credit only. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students.

PS 6830 Civil War and Conflict Processes Cr. 3
Introduction to literature on civil wars: origins, variables affecting their duration, termination. Peace making and peace agreements studied comparatively. Recent Balkan and African civil wars. Offered Intermittently.

PS 6850 International Organizations Cr. 3
Covers origins and significance of international institutions in world politics. Reviews theoretical approaches to international institutions and global governance, including realist, institutionalist and constructivist. Examines problems of cooperation, delegation of power, disparities of power and the development of robust international regimes in a variety of areas of global governance (security, economic, human rights). Offered Intermittently.

PS 6860 American Foreign Policy Cr. 3
Contending paradigms of realism and liberalism as they relate to programs for American foreign policy. Offered Yearly.

PS 6870 United States Foreign Relations Law Cr. 4
U.S. constitutional law and politics relating to the branches' competencies in conduct of foreign affairs and to incorporation of international law in U.S. courts; war powers, counterterrorism, treaties, human rights litigation, immunities. Offered Every Other Year.
Prerequisite: PS 5110 with a minimum grade of D- or PS 5820 with a minimum grade of D-
Equivalent: LEX 7888

PS 7020 The New Institutionalism Cr. 3
Applies concepts of rational choice theory to explain the development of political institutions. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.

PS 7030 American Political Processes Cr. 3
Political socialization, public opinion, and political behavior. Role of political parties and interest groups in the political process. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.

PS 7040 American Governmental Institutions: Congress and the Courts Cr. 3
Examination of the functions, structure and processes of major American governmental institutions with special emphasis on the Congress and the courts. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.

PS 7045 American Governmental Institutions: The Presidency Cr. 3
Analysis of the American presidency: the presidency and American political development, relationship of the office to other major political institutions, nature and sources of presidential power. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.

PS 7050 American Political Culture Cr. 3
Analysis of the relationship between belief systems and political action in America. Focus on patterns of social change and conflict management. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.

PS 7099 Topics in American Politics Cr. 3
Topics chosen by faculty; may include: gender politics, political socialization, voting behavior, political parties, and interest groups. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students.

PS 7210 Approaches to the Study of Urban Politics Cr. 3
Examination of aspects of the urban political process and the research methods used in studying them. Topics include forms of political participation, political structures, community power and influence, strengths and weaknesses of case studies, comparative research, aggregate and individual data. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.

PS 7240 Urban Public Policy Cr. 3
Overview of major theoretical approaches to understanding urban/regional problems and politics. Focus on following regional issues: interdependence of populations across municipal borders, municipal fragmentation, racial and economic segregation, mobility of labor and capital within and across regions. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.

PS 7250 Seminar in Urban Administration Cr. 3
Administration in agencies with urban-related policy and program functions. Focus on: public services delivery; urban systems development; program-project design, implementation and evaluation; and intergovernmental relations. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.

PS 7260 Urban Poverty and Racial Segregation Cr. 3
Review of theories of poverty from various economic/political perspectives; historical intervention policies; current literature on interplay of racial, economic, and spatial factors on growing economic inequality among urban whites and African-Americans. Political rationale and meaning of the underclass debate. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: AFS 6600, ANT 7260, SOC 7350, UP 7260

PS 7300 Public Administration and its Environment Cr. 3
Emergence and evolution of public administration as both a profession and a field of study. The role of public bureaucracies in the political process and efforts to ensure administrative accountability and responsiveness to the democratic system. Administrative relationships with elected executives, legislatures, the judiciary, the media and interest groups. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.

PS 7310 Public Management Internship Cr. 1-3
Internship designed to integrate graduate course work with practical knowledge and experience gained from employment in a responsible capacity in a public agency or nonprofit organization. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 6 Credits

PS 7320 Organization Theory and Behavior Cr. 3
Study of major theoretical approaches to the structure, functioning and performance of organizations and the behavior of groups and individuals within them. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.

PS 7330 Public Budgeting and Finance Cr. 3
Processes of public budgeting in the United States; political dynamics of budgetary decision-making; assessment of efforts to change budget systems; basic concepts of fiscal analysis of expenditure patterns and revenue sources. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.

PS 7340 Public Personnel Management Cr. 3
Examination of the public personnel systems of American governmental units; analysis of current practices and techniques for recruiting, selecting, training, promoting, compensating and removing public employees. Major issues in public personnel management such as collective bargaining, equal employment opportunity, civil service reform and employee productivity and performance. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.

PS 7350 Managing Public Organizations and Programs Cr. 3
Processes and techniques for managing public organizations and providing public services. Topics include: total quality management, communication and information management, motivation and supervision of subordinates, planning and decision making. Relying on for-profit and nonprofit organizations in service delivery. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.

PS 7375 Professional Development Seminar Cr. 1-2
Analysis of managerial techniques and practices currently used by administrators in the public sector. Emphasis on managerial applications of information technology, administrative writing and presentation skills, and organizational and behavioral approaches and techniques. Content areas will vary with yearly offerings. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.

PS 7410 Policy Formation and Implementation Cr. 3
Analysis of the processes through which public policy is made and implemented. Examination of the factors that promote or impede the development and realization of rational, effective, and responsive public policy. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.

PS 7460 Program Evaluation Cr. 3
Theory and practice of program evaluation. Role of program evaluation in the policy process. A number of theories of evaluation will be presented, followed by a discussion of techniques. Topics include total quality management, bench marking; utilization of evaluation. Offered Every Other Year.
Prerequisite: PS 5630 with a minimum grade of C-
Restriction(s): Enrollment is limited to Graduate level students.

PS 7470 Comparative Public Policy Cr. 3
Provides a comparative introduction to the field of public policy for graduate students. Topics covered include actors and institutions involved in policy making, key concepts, major policy theories and frameworks. After establishing this conceptual foundation, students will explore substantive policy in the U.S. and international context, with attention to the sources of policy differences, such as political institutions, economic conditions and culture. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.

PS 7480 Policy Analysis for Administration Cr. 3
Introduction to the conceptual foundations of public policy analysis as well as training in various policy analysis tools. Opportunities for students to do policy analysis. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.

PS 7550 Topics in the History of Political Thought Cr. 3-6
Survey of selected political theorists by period or theme; emphasis on interpretation of major works. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.

PS 7560 Contemporary Political and Social Theory Cr. 3-6
Analysis of selected major problems, topics, and themes in recent political and social theory. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.

PS 7580 Political Theory of Public Law Cr. 3
Legal restraints on exercise of public power as conceived in works of early modern theorists (e.g., Machiavelli, Locke, Montesquieu, and Madison), and as applied in constitutional arrangements that have emerged in a range of historical settings. Topics include: role of law in totalitarian political systems; emergency rule; comparative approaches to judicial review. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: LEX 7659

PS 7640 Introduction to Game Theory Cr. 3
Standard elements of game theory including some political science applications for illustrative purposes. Emphasis on gaining facility with theoretical concepts and tools. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.

PS 7660 Research Methods in Policy and Politics Cr. 3
Analytic methods in the study of politics and public policy: formulating researchable problems, use of models, research design, measurement, data collection, and computer-based data analysis. Offered Yearly.
Prerequisite: PS 5630
Restriction(s): Enrollment is limited to Graduate level students.

PS 7710 Seminar in Comparative Politics Cr. 3
Research-oriented seminar in which students learn basic approaches to the study of domestic policy-making through the comparative method, including structural, cultural, institutional, elite, and rational choice approaches. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.

PS 7711 Advanced Seminar in Comparative Politics Cr. 3-6
Analysis of selected major issues, topics, and debates in the field. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 99 Credits

PS 7720 Comparative Politics of Advanced Industrial Democracies Cr. 3
Provides an in depth at the political structures and institutions of advanced industrial democracies and at the methods, concepts and theories of comparative politics that further our understanding of those countries. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students.

PS 7730 Seminar: Comparative Politics of Developing Countries Cr. 3
Intellectual questions and methodological strategies political scientists are addressing in the study of politics in the developing world. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students.

PS 7740 Political Economy Cr. 3
Seminar course; comprehensive survey of political economy: interaction between the government and the economy; microeconomics of politics. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.

PS 7810 Seminar in World Politics Cr. 3
Major theoretical approaches. Students evaluate the extent to which theses that devolve from realist, idealist, Marxist, culturalist, decision-making, and alternative approaches allow us to explicate phenomena in world politics. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 9 Credits

PS 7811 Advanced Seminar in World Politics Cr. 3
Examination of broad range of substantive topics; student develops ability to conduct independent research in world politics subfield; introduction to alternative theoretical approaches and different methods for conducting empirical research. Major performance objective is student development of a research design. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 6 Credits

PS 7995 Directed Study Cr. 1-6
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.

PS 7997 Research in Political Science Cr. 1-9
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.

PS 7999 Master's Essay Direction Cr. 1-3
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students with a class of Candidate Masters.

PS 8000 Readings in Political Science Cr. 3
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 6 Credits

PS 8600 Philosophic Problems of Social and Political Inquiry Cr. 3
Required of all doctoral students. Exploration of competing philosophies of science and their relevance to the study of politics. Study of selected problems in political inquiry, including objectivity, commensurability, and progress. Review of disciplinary history and assessments of contemporary approaches to the study of politics. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.

PS 8999 Master's Thesis Research and Direction Cr. 1-8
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students with a class of Candidate Masters.
Repeatable for 8 Credits

PS 9990 Pre-Doctoral Candidacy Research Cr. 1-8
Research in preparation for doctoral dissertation. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 12 Credits

PS 9991 Doctoral Candidate Status I: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.

PS 9992 Doctoral Candidate Status II: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: PS 9991 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

PS 9993 Doctoral Candidate Status III: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: PS 9992 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

PS 9994 Doctoral Candidate Status IV: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: PS 9993 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

PS 9995 Candidate Maintenance Status: Doctoral Dissertation Research and Direction Cr. 0
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $370.26
Repeatable for 0 Credits

PSC - PHARMACEUTICAL SCIENCES

PSC 3110 Pharmaceutical Biochemistry Cr. 3
Survey of biochemistry for pharmacy students, metabolism, and drug effects in the maintenance of normal human biochemistry and homeostasis. Offered Fall.
Restriction(s): Enrollment is limited to Professional level students; enrollment limited to students in the Pharmacy and Health Sciences.

PSC 4115 Pharmaceutics I Cr. 3
Introduction to pure drug substance formulation into dosage forms and the principles and mechanisms for developing dosage forms for safe and effective use in patients. Offered Fall.
Restriction(s): Enrollment limited to students in the Doctor of Pharmacy program.

PSC 4125 Introduction to Pharmaceutical Sciences: Medicinal Chemistry / Pharmacology / Immunology Cr. 3
Introduction to medicinal chemistry, pharmacology and biotechnology with a focus on drug discovery and drug action. Offered Fall.
Restriction(s): Enrollment limited to students in the Doctor of Pharmacy program.

PSC 4215 Pharmaceutics II Cr. 2
Basic pharmacokinetics: principles of drug administration, distribution, metabolism and excretion (ADME) using different dosage forms, and basics of administration routes. Offered Winter.
Restriction(s): Enrollment limited to students in the Doctor of Pharmacy program.

PSC 4225 Autonomic Pharmacology Cr. 2
The principles of autonomic pharmacology integrated into an understanding of the functioning of the autonomic system; the major target organs and the physiological effects of agonists and antagonists elicited through autonomic receptor subtypes. Offered Winter.
Prerequisite: PSC 4125
Restriction(s): Enrollment limited to students in the Doctor of Pharmacy program.

PSC 5115 Pharmacokinetics Cr. 2
Conceptual knowledge-base and practical calculation applications of pharmacokinetic principles. Offered Fall.
Restriction(s): Enrollment limited to students in the Doctor of Pharmacy program.

PSC 5600 Drugs of Abuse Cr. 2
Pharmacology and toxicology, both clinical and animal, associated with recreationally-used agents; treatment of acute and chronic problems associated with these agents; concept of chronic drug administration and abuse as disease state. Offered Yearly.
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

PSC 5870 Seminar in Pharmacology Cr. 1
Reports and discussions on current literature and recent advances in the field. Assigned topics presented by students. Offered for undergraduate credit only. Offered Every Term.
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.
Repeatable for 2 Credits

PSC 5990 Directed Study in Medicinal Chemistry Cr. 2
Offered for undergraduate credit only. Offered Every Term.
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

PSC 5991 Directed Study in Pharmaceutics Cr. 2
Offered for undergraduate credit only. Offered Every Term.
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

PSC 5992 Directed Study in Pharmacology Cr. 2
Offered for undergraduate credit only. Offered Every Term.
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

PSC 6285 Pharmacy Seminar Cr. 1
Presentations on topics of current interest on basic science problems relevant to the major discipline of pharmaceutical sciences. Offered Winter.
Restriction(s): Enrollment limited to students in the Doctor of Pharmacy program.

PSC 6620 Veterinary Pharmacology Cr. 2
Provides an overview of veterinary pharmacology that offers a review of the chemical structure, mechanism of action, indications for use, and side effects of therapeutics. Iincludes topics such as toxicology, laws and regulations and common diseases/conditions of veterinary species. Offered Fall.
Restriction(s): Enrollment limited to students in the Doctor of Pharmacy program.

PSC 6800 Introduction to Research Cr. 2
Fundamental concepts and resources for responsible conduct of biomedical research and advancing scientific professional development, and data analysis and statistics. Offered Yearly.
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

PSC 6890 Toxicology for Pharmacists Cr. 2
Exposes students to basic concepts in toxicology; serves as a knowledge base to assist in the understanding of mechanisms and rationale behind the relationship of certain drugs and their specific types of toxicities, and addresses tissue and organ-specific toxicities, drug-drug interactions, on-target and off-target effects, and risk assessment. Offered Winter.
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

PSC 6910 Pharmaceutical Waste: Environmental Impact and Management Cr. 2-3
Course designed for advanced professional and graduate students with sufficient chemistry and/or biological sciences background who are interested in the environmental impact, management, and regulation of waste pharmaceuticals as emerging issues. Offered Spring/Summer.
Restriction(s): Enrollment is limited to Graduate or Professional level students.
Equivalent: CE 6910

PSC 7010 Advanced Drug Action and Safety I Cr. 3
Survey of advanced research topics in pharmacology. Offered Every Other Fall.
Restriction(s): Enrollment is limited to Graduate or Professional level students; enrollment limited to students in the Pharmacy and Health Sciences.

PSC 7020 Advanced Drug Discovery I Cr. 3
Survey of advanced research topics in medicinal chemistry. Offered Every Other Fall.
Restriction(s): Enrollment is limited to Graduate or Professional level students; enrollment limited to students in the Pharmacy and Health Sciences.

PSC 7040 Advanced Drug Formulation and Delivery I Cr. 3
Survey of advanced research topics in pharmaceutics. Offered Every Other Winter.
Restriction(s): Enrollment is limited to Graduate or Professional level students; enrollment limited to students in the Pharmacy and Health Sciences.

PSC 7160 Advanced Practice Basic Pharmaceutical Sciences Elective Cr. 3-6
Eight-week rotation in basic science-oriented research laboratory. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate or Professional level students; enrollment limited to students in the Pharmacy and Health Sciences.
Repeatable for 6 Credits

PSC 7600 Drugs of Abuse: Advanced Cr. 2
Pharmacology and toxicology, both clinical and animal, associated with recreationally-used agents; treatment of acute and chronic problems associated with these agents; concept of chronic drug administration and abuse as disease state. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate or Professional level students; enrollment limited to students in the Pharmacy and Health Sciences.

PSC 7700 Advanced Drug Action and Safety II Cr. 2
Continuing survey of modern research topics in pharmacology. Offered Every Other Winter.
Restriction(s): Enrollment is limited to Graduate or Professional level students; enrollment limited to students in the Pharmacy and Health Sciences.

PSC 7710 Advanced Drug Discovery II Cr. 2
Continuing survey of advanced research topics in medicinal chemistry. Offered Every Other Winter.
Restriction(s): Enrollment is limited to Graduate or Professional level students; enrollment limited to students in the Pharmacy and Health Sciences.

PSC 7720 Advanced Drug Formulation and Delivery II Cr. 2
Second course in survey of advanced research topics in pharmaceutics. Offered Every Other Winter.
Restriction(s): Enrollment is limited to Graduate or Professional level students; enrollment limited to students in the Pharmacy and Health Sciences.

PSC 7800 Research Techniques in Medicinal Chemistry Cr. 1-4
Laboratory work employing modern techniques available in medicinal chemistry; application of basic principles to graduate study and research. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate or Professional level students; enrollment limited to students in the Pharmacy and Health Sciences.
Repeatable for 12 Credits

PSC 7810 Research Techniques in Pharmaceutics Cr. 1-4
Laboratory work employing modern techniques available in pharmaceutics: application of basic principles to graduate study and research. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate or Professional level students; enrollment limited to students in the Pharmacy and Health Sciences.
Repeatable for 12 Credits

PSC 7820 Research Techniques in Pharmacology Cr. 1-4
Laboratory work employing some of the modern techniques available in pharmacology, including the application of basic principles to graduate study and research. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate or Professional level students; enrollment limited to students in the Pharmacy and Health Sciences.
Repeatable for 12 Credits

PSC 7850 Pharmaceutical Sciences Colloquium Cr. 1
This course is a required seminar course for all graduate students in the Department of Pharmaceutical Sciences. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate or Professional level students; enrollment limited to students in the Pharmacy and Health Sciences.
Repeatable for 10 Credits

PSC 7860 Introduction to Seminar Cr. 1
A required seminar course for all first year graduate students in the Department of Pharmaceutical Sciences. Students will be required to present a seminar on their research progress during their first year in the program. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate or Professional level students; enrollment limited to students in the Pharmacy and Health Sciences.
Repeatable for 4 Credits

PSC 7870 Second Year Seminar Cr. 1
A required seminar course for all second year PhD students in the Department of Pharmaceutical Sciences. Students will be required to present a seminar on a topic unrelated to their research. Offered Fall, Winter.
Prerequisites: PSC 7860 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

PSC 7880 Third Year Seminar Cr. 1
A required seminar course for all third year PhD students in the Department of Pharmaceutical Sciences. Students will be required to present a seminar on their research. Offered Fall, Winter.
Prerequisites: PSC 7870 with a minimum grade of C

PSC 7999 Master's Essay Direction Cr. 1-4
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate or Professional level students; enrollment limited to students with a class of Candidate Masters; enrollment limited to students in the Pharmacy and Health Sciences.
Repeatable for 4 Credits

PSC 8650 Special Topics in Medicinal Chemistry Cr. 2
Recent developments in medicinal chemistry. Topics under investigation and of current interest offered in different semesters. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate or Professional level students; enrollment limited to students in the Pharmacy and Health Sciences.
Repeatable for 6 Credits

PSC 8660 Special Topics in Pharmaceutics Cr. 2
Recent developments in pharmaceutics. Topics under investigation and of current interest offered in different semesters. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate or Professional level students; enrollment limited to students in the Pharmacy and Health Sciences.
Repeatable for 6 Credits

PSC 8670 Special Topics in Pharmacology Cr. 2
Recent developments in pharmacology. Topics under investigation and of current interest offered in different semesters. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate or Professional level students; enrollment limited to students in the Pharmacy and Health Sciences.
Repeatable for 6 Credits

PSC 8999 Master's Thesis Research and Direction Cr. 1-8
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate or Professional level students; enrollment limited to students with a class of Candidate Masters; enrollment limited to students in the Pharmacy and Health Sciences.
Repeatable for 8 Credits

PSC 9990 Pre-Doctoral Candidacy Research Cr. 1-8
Research in preparation for doctoral dissertation. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate or Professional level students; enrollment limited to students in the Pharmacy and Health Sciences.
Repeatable for 12 Credits

PSC 9991 Doctoral Candidate Status I: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate or Professional level students; enrollment limited to students in the Pharmacy and Health Sciences.

PSC 9992 Doctoral Candidate Status II: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate or Professional level students; enrollment limited to students in the Pharmacy and Health Sciences.

PSC 9993 Doctoral Candidate Status III: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate or Professional level students; enrollment limited to students in the Pharmacy and Health Sciences.

PSC 9994 Doctoral Candidate Status IV: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate or Professional level students; enrollment limited to students in the Pharmacy and Health Sciences.

PSC 9995 Candidate Maintenance Status: Doctoral Dissertation Research and Direction Cr. 0
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate or Professional level students; enrollment limited to students in the Pharmacy and Health Sciences.
Course Material Fees: $370.26
Repeatable for 0 Credits

PSL - PHYSIOLOGY

PSL 5010 Individual Research I Cr. 2-5
Direct participation in laboratory research in the physiological sciences under the supervision of a departmental faculty advisor. Introduction to experimental protocol and current related scientific literature. Offered Every Term.
Restriction(s): Enrollment limited to students with a class of Junior or Senior.
Repeatable for 5 Credits

PSL 5680 Basic Endocrinology Cr. 3
Basic description of the human endocrine system, the endocrine control of several physiologic processes (growth, development, metabolism and reproduction), and a description of common endocrine disorders. Offered Fall.
Prerequisites: BIO 3200 with a minimum grade of C- or BIO 4120 with a minimum grade of C-
Equivalent: BIO 5680

PSL 6010 Physiology of Exercise II Cr. 3
Metabolic, neuromuscular, cardiovascular, and respiratory adjustments to acute and chronic exercise in health and disease, including body composition and weight control, nutritional considerations, and the effects of different environments on exercise performance. Offered Fall.
Prerequisite: KIN 3570 with a minimum grade of C-
Restriction(s): Enrollment limited to students with a class of Unranked Undergrad, Freshman, Sophomore, Junior, Senior or Post Bachelor.
Equivalent: KIN 6310, PT 6310

PSL 6300 Biotechnology: Techniques and Applications Cr. 2
Various biotechnical methodologies currently used in research and industry; application of these methodologies in scientific inquiries. Offered Fall.

PSL 6310 Biotechnology: Techniques and Applications Lab Cr. 2-5
Students choose one of the biotechnology techniques discussed in PSL 6300 and spend the semester in an active research laboratory learning the practice of the technique through hands-on experience. Offered Winter.
Prerequisites: May be taken concurrently: PSL 6300 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

PSL 7010 Basic Graduate Physiology Lecture I Cr. 4
Introduction to basic human physiology. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.

PSL 7011 Basic Integrative Graduate Physiology I Cr. 4
Offered Fall.
Restriction(s): Enrollment is limited to students with a major in Physiology.

PSL 7020 Basic Graduate Physiology Laboratory I Cr. 2
Introductory laboratory exercises to measure cell and membrane function; neuronal activity; electrophysiology; and hormonal actions. Offered Fall.
Restriction(s): Enrollment is limited to students with a major in Physiology.
Course Material Fees: $50

PSL 7030 Basic Graduate Physiology Lecture II Cr. 4
Functional mechanisms of the human body. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students.

PSL 7031 Basic Integrative Graduate Physiology II Cr. 4
Offered Winter.
Restriction(s): Enrollment is limited to students with a major in Physiology.

PSL 7040 Basic Graduate Physiology Laboratory II Cr. 2
Experimental physiology of organ systems. Offered Winter.
Restriction(s): Enrollment is limited to students with a major in Physiology.
Course Material Fees: $50

PSL 7060 Current Literature in Physiology Cr. 1
Students are required to present published papers at least once each semester, and must attend all class meetings. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Graduate level students.

PSL 7215 Nanobioscience Cr. 3
Introduction to interdisciplinary research field of nanobioscience, at the interphase of biology, chemistry, and physics; specific properties of nanoscale objects. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.

PSL 7400 Advanced Respiratory Physiology Cr. 2
Advanced topics in respiratory physiology; guidance in critical reading and discussion of the literature. Offered Every Other Winter.
Prerequisite: PSL 7030 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate or Medical level students.

PSL 7550 Advanced Renal Physiology Cr. 2
A detailed study of the physiological mechanisms promoting homeostasis of the body fluid volumes and ionic composition in the mammal. Offered Every Other Fall.
Prerequisites: PSL 7030 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

PSL 7600 Advanced Cardiovascular Physiology Cr. 2
Basic principles of heart dynamics and control techniques in measurement of cardiac function. Offered Fall.
Prerequisites: PSL 7030 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Physiology; enrollment limited to students in a Doctor of Philosophy or Master of Science degrees.

PSL 7610 Biological Basis of Sleep Cr. 2
Basic physiology of human sleep; role of sleep in cognitive and physical performance; sleep disorders (such as sleep apnea, narcolepsy). Offered Every Other Winter.
Prerequisites: PSL 7030 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

PSL 7640 Cell and Molecular Physiology Cr. 3
Lecture and discussion. Research in atomic force microscopy, molecular structure, exocytosis, insulin signal transduction, glucose transport, estrogen receptors, ion channels, Na, K-ATPase, Na/Ca exchanger, hormonal regulation of ion transport. Offered Every Other Winter.
Prerequisites: PSL 7010 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

PSL 7660 Neurophysiology Cr. 3
Anatomy and physiology of the neuron and the mammalian nervous system. Correlations of central nervous system functions and electrophysiology. Offered Every Other Fall.
Prerequisites: PSL 7010 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

PSL 7680 Endocrinology Cr. 4
A detailed emphasis on current research. Student participation encouraged; each student required to present a one hour lecture. Offered Winter.
Prerequisites: PSL 7010 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

PSL 7690 Principles and Techniques of Reproductive Biology Cr. 3
Principles and techniques in reproduction including endocrinology, gametogenesis, fertilization, implantation, embryogenesis, stem cell determination, pregnancy and parturition. Offered Every Other Fall.
Restriction(s): Enrollment is limited to Graduate level students.

PSL 7700 Embryonic Stem Cell Biology Cr. 3
Methods involved in production and utilization of embryonic stem cells. Lectures supplemented with text, reviews, and recent papers. Offered Every Other Winter.
Prerequisite: PSL 7690
Restriction(s): Enrollment is limited to Graduate level students.

PSL 7710 Disease States and Reproductive Processes Cr. 1
Diseases and areas in reproductive medicine where additional research is required. Students accompany clinicians during rounds in hospital and out-patient clinics. Offered Spring/Summer.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Medicine.

PSL 7730 Reproductive Sciences: Teratology Cr. 3
Principles of the science of birth defects; focus on impact of environmental poisons, medicines, and drugs of abuse on developing germ cells, embryos and fetuses. Roles of pharmacological/toxicological, physiological (maternal, placental, and fetal), genetic and nutritional factors in the teratogenic response are examined. Texts and current readings. Offered Every Other Fall.
Restriction(s): Enrollment is limited to Graduate level students.

PSL 7775 Current Research Topics in Reproductive Science Cr. 1
Lectures covering current topics in reproductive biology, health, and medicine. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.

PSL 7825 Membrane Physiology: Protein Transport, Lipid Metabolism and Human Diseases Cr. 2
Covers the basic concepts of membrane transport in the mammalian secretory pathway with an emphasis on the dysregulation of key transport steps and the defective mutations of key regulators which lead to human diseases (e.g. neurodegenerative diseases, diabetes and coronary heart diseases). Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.

PSL 7880 Special Problems in Physiology Cr. 1-8
Topics individually arranged with faculty. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 8 Credits

PSL 7890 Seminar Cr. 1
For graduate students in physiology. Participation in weekly departmental seminars. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 6 Credits

PSL 7910 Molecular Male Reproduction and Chromatin Cr. 1
Students write topic-specific essays. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.

PSL 7996 Arranged Research Cr. 1-15
Graduate level experiences in research techniques. Special research topics in specified areas arranged with individual faculty member. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 15 Credits

PSL 8999 Master's Thesis Research and Direction Cr. 1-8
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students with a class of Candidate Masters.
Repeatable for 8 Credits

PSL 9990 Pre-Doctoral Candidacy Research Cr. 1-8
Research in preparation for doctoral dissertation. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 12 Credits

PSL 9991 Doctoral Candidate Status I: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.

PSL 9992 Doctoral Candidate Status II: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: PSL 9991 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

PSL 9993 Doctoral Candidate Status III: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: PSL 9992 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

PSL 9994 Doctoral Candidate Status IV: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: PSL 9993 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

PSL 9995 Candidate Maintenance Status: Doctoral Dissertation Research and Direction Cr. 0
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $370.26
Repeatable for 0 Credits

PSY - PSYCHOLOGY

PSY 1010 Introductory Psychology Cr. 4
Satisfies General Education Requirement: Life Sciences, Natural Scientific Inquiry
Grade of C or better required for psychology majors. Introduction to the science of behavior. Principles, concepts, and theories of human thought and action. Selected concepts illustrated through laboratory experiments. Recommended for students intended to major in psychology. Meets General Education Laboratory Requirement. No credit after PSY 1020. Offered Every Term.

PSY 1020 Elements of Psychology Cr. 3
Satisfies General Education Requirement: Life Sciences, Natural Scientific Inquiry
Principles, theories and applications of psychological knowledge. Intended for non-psychology majors. No credit after PSY 1010. Offered Every Term.

PSY 1030 Introductory Psychology Laboratory Cr. 1
Principles, concepts and theories of human thought and behavior illustrated through laboratory experiments. Required of psychology majors who have AP Psych credit or took PSY 1020 to complete Introductory Requirement; Grade of C or better required for psychology majors. No credit after PSY 1010. Offered Every Term.
Prerequisites: PSY 1020 with a minimum grade of C-
Restriction(s): Enrollment is limited to Undergraduate level students.

PSY 2020 Research Methods In Psychology Cr. 4
Basic principles of research design in psychology and measurement of psychological constructs. Students must take lecture and corresponding lab. Psychology majors must earn C or better. Students are strongly urged to take STA 1020 to satisfy the math prerequisite. Course study and/or tutoring is available for this course. Offered Yearly.
Prerequisites: PSY 1010 with a minimum grade of C or PSY 1030 with a minimum grade of C and MAT 1000-6999 with a minimum grade of C or STA 1020 with a minimum grade of C or ACT Math >= 25 QE = 100 with a test score minimum of 100 or Quantitative Exp P=100/F=000 with a test score minimum of 100 or SAT Math QE = 100 with a test score minimum of 100 or Michigan Transfer Agreement with a test score minimum of 100

PSY 2030 Statistical Methods in Psychology Cr. 4
Primarily for psychology majors. Principles and computational methods that apply to quantitative aspects of psychological procedure; elementary correlation theory and prediction, sampling problems, tests of hypotheses, elementary test theory, interpretation of results. Students must take lecture and corresponding lab. Students will learn how to use statistic software SPSS. Psychology majors must earn C or better. Students are strongly urged to take STA 1020 to satisfy the math prerequisite. Course study and/or tutoring is available for this course. Offered Every Term.
Prerequisites: PSY 1010 with a minimum grade of C or PSY 1030 with a minimum grade of C and PSY 2020 with a minimum grade of C and MAT 1000-6999 with a minimum grade of C or STA 1020 with a minimum grade of C or ACT Math >= 25 QE = 100 with a test score minimum of 100 or Quantitative Exp P=100/F=000 with a test score minimum of 100 or SAT Math QE = 100 with a test score minimum of 100 or Michigan Transfer Agreement with a test score minimum of 100

PSY 2080 Introduction to Drugs, Behavior, and Society Cr. 3
Introduction to drugs and their actions. Emphasis on psychoactive drugs, their effects, and the consequences of their use and misuse to the individual and society. Offered Every Term.
Prerequisites: PSY 1010 with a minimum grade of D- or PSY 1020 with a minimum grade of D-

PSY 2100 Psychology and the Workplace Cr. 3
Psychology applied to workplace issues. Major topics include organizational staffing, employee training and development, organizational leadership, employee attitudes and motivation, organizational culture and climate, and employee health and well-being. Offered Every Term.
Prerequisites: PSY 1010 with a minimum grade of D- or PSY 1020 with a minimum grade of D-

PSY 2300 Psychology of Everyday Living Cr. 4
Applications of psychological principles to everyday life. How research can be used to guide positive self-change in various contexts (e.g., stress, psychological problems, personality, persuasion, attitudes). Offered Every Term.
Prerequisites: PSY 1010 with a minimum grade of D- or PSY 1020 with a minimum grade of D-

PSY 2400 Developmental Psychology Cr. 4
Facts, principles, theories of psychological development throughout the lifespan. Development of intellectual, emotional, perceptual, linguistic, and social behavior. Developmental trends. Offered Every Term.
Prerequisites: PSY 1010 with a minimum grade of D- or PSY 1020 with a minimum grade of D-

PSY 2410 Health Psychology Cr. 4
Clinical, social, developmental, and biopsychosociological theory and research on relationship of psychological and behavioral factors to physical health and well-being. Positive and negative health behaviors, stress and coping, social relations and social support, psychoneuroimmunology, patient-practitioner interaction and health utilization, management of chronic illness. Offered Every Term.
Prerequisites: PSY 1010 with a minimum grade of D- or PSY 1020 with a minimum grade of D-

PSY 2450 Developmental Psychology Service Learning Laboratory Cr. 1
The laboratory involves a project related to development that serves a community need and is conducted within the community. Participation in the project is intended to result in deeper learning of the course content in PSY 2400. Offered Fall.
Prerequisites: PSY 1010 or PSY 1020 and May be taken concurrently: PSY 2400

PSY 2600 Psychology of Social Behavior Cr. 4
Social behavior of the individual as influenced by the group. Particular attention given to social perception, motivation, and learning; attitudes and values; dynamics of social groups. Offered Every Term.
Prerequisites: PSY 1010 with a minimum grade of D- or PSY 1020 with a minimum grade of D-

PSY 2650 Philosophy of Psychology Cr. 3
Satisfies General Education Requirement: Cultural Inquiry
Central examples of these questions and proposed answers: Could we build an intelligent computer? Is our mind just a piece of software that our brain is running? Is there a ""language of thought""? Are we much less rational than we think? How can we understand each other's minds? Can there be laws in psychology? What is consciousness, and can it be studied scientifically? We will address these and other questions via the work of philosophers, psychologists and cognitive scientists. Offered Winter.
Equivalent: PHI 2650

PSY 3040 Psychology of Perception: Fundamental Processes Cr. 3
Fundamental theories, concepts, and empirical studies of basic sensory processes and the perception and organization of sensory phenomena. Offered Fall, Winter.

PSY 3060 Psychology of Learning and Memory: Fundamental Processes Cr. 3
Fundamental theories, concepts, and empirical findings in field of learning. Offered Fall, Winter.
Prerequisites: PSY 1010 with a minimum grade of D- or PSY 1020 with a minimum grade of D-

PSY 3080 Cognitive Psychology: Fundamental Processes Cr. 3
Fundamental theories, concepts, and empirical findings in study of human cognition. Topics include: thinking, problem solving, language comprehension and production, memory and attention. Offered Every Term.
Prerequisites: PSY 1010 with a minimum grade of D- or PSY 1020 with a minimum grade of D-
Equivalent: LIN 3080

PSY 3120 Brain and Behavior Cr. 3
Introduction to the brain and its influence over behavior. Structure and function of the nervous system, neural communication, and neural mechanisms of higher nervous system functions and dysfunctions. Topics include: biological basis of sleep, sex, learning, memory, language, schizophrenia, and depression. . No credit after PSY 5330. Offered Every Term.
Prerequisites: PSY 1010 with a minimum grade of D- or PSY 1020 with a minimum grade of D-

PSY 3200 Motivation, Feeling and Emotion Cr. 3
Experimental findings in psychological and allied fields on topics of motivation, feeling, and emotion; evaluation of classical theories and an attempt to develop a theoretical approach based on factual knowledge. Offered Intermittently.
Prerequisites: PSY 1010 with a minimum grade of D- or PSY 1020 with a minimum grade of D-

PSY 3250 Psychology of Gender Cr. 3
Evidenced-based understanding of similarities and differences between women and men in domains such as cognitive skills, aggression, empathy, communication, emotional expression and mental health. Exploration of biological, psychological and social theories used to explain gender identity and expression. Focus on historical and current issues related to the psychology of women, including relationships, careers and health. Offered Every Term.
Prerequisites: PSY 1010 with a minimum grade of D- or PSY 1020 with a minimum grade of D-

PSY 3310 Abnormal Psychology Cr. 4
Nature and causes of various forms of abnormal behavior, including schizophrenia, depression, and neurosis, viewed from psychological, biological, cultural, developmental and historical perspectives. Diagnosis and treatment of pathological behavior. Offered Every Term.
Prerequisites: PSY 1010 with a minimum grade of D- or PSY 1020 with a minimum grade of D-

PSY 3330 Systems Neuroscience Cr. 3
Systems Neuroscience explores the brain circuits that contribute to regulatory (i.e., sexual differentiation and reproductive behavior, reward and addiction, aggression and violence, physical and social pain), and higher order (i.e., learning and memory, cerebral lateralization and consciousness) experiences and behaviors. Changes in neural circuits that contribute to disorders of thought (schizophrenia), emotion (anxiety) and sensory processing (chronic pain), and neurobiological strategies for their remediation also are explored. Offered Winter.
Prerequisite: BIO 3200 with a minimum grade of C-

PSY 3350 Psychology of Personality Cr. 3
An examination of the major approaches to the study of personality. Current psychological findings in the field of personality and their implications for psychotherapy and assessment. Offered Every Term.
Prerequisites: PSY 1010 with a minimum grade of D- or PSY 1020 with a minimum grade of D-

PSY 3380 Human Sexuality Cr. 3
Biological, psychological and socio-cultural aspects of human sexuality. Topics include anatomy and development, sexual behavior, and cultural influences. Offered Every Term.
Prerequisites: PSY 1010 with a minimum grade of D- or PSY 1020 with a minimum grade of D-

PSY 3430 Infant Development Cr. 3
Development of the infant from conception through the toddler years. Physical, motor, perceptual, cognitive, language, social and emotional development. Current findings and their implications for parenting, programming and care. Offered Yearly.
Prerequisites: PSY 2400 with a minimum grade of D-

PSY 3440 Psychology of Child Behavior and Development Cr. 3
Developmental processes in childhood; language acquisition, cognitive development, development of peer-peer interactions. Offered Yearly.
Prerequisites: PSY 2400 with a minimum grade of D-

PSY 3460 Psychology of Adolescent Behavior and Development Cr. 3
Factors that promote the emergence of new relationships with parents, changes in peer relationships, increased independence, preparation for marriage and parenthood, and socioeconomic integration into the larger society. Biological and anthropological perspectives on sex roles. Offered Yearly.
Prerequisites: PSY 1010 with a minimum grade of D- or PSY 1020 with a minimum grade of D-

PSY 3480 Parent-Child Interaction Across the Lifespan Cr. 3
Theory and research on interactions between parents and children. Focus on normal developmental concerns, infancy through adulthood: discipline, sibling rivalry, sex-role identification, parental support. Offered Yearly.
Prerequisites: PSY 2400 with a minimum grade of D-

PSY 3490 Psychology of Adult Development and Aging Cr. 3
The adulthood and aging years from a developmental perspective, including: intelligence, memory, personality, and social behavior. Offered Intermittently.
Prerequisites: PSY 1010 with a minimum grade of D- or PSY 1020 with a minimum grade of D- and PSY 2400 with a minimum grade of D-

PSY 3993 Laboratory in Experimental Psychology Cr. 2
Satisfies General Education Requirement: Writing Intensive Competency
Lab investigations of perceptual, sensory, learning, and cognitive processes. Offered Every Term.
Prerequisites: PSY 2030 with a minimum grade of C and May be taken concurrently: PSY 3040 with a minimum grade of D- or PSY 3060 with a minimum grade of D- or PSY 3080 with a minimum grade of D- and ENG 2390 with a minimum grade of C or ENG 3010 with a minimum grade of C or ENG 3020 with a minimum grade of C or ENG 3050 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students.
Course Material Fees: $15

PSY 4140 Hormones and Behavior Cr. 3
Examines the relationship between hormones and behavior, taking a biological approach to behavioral questions that have long been of interest to Psychologists, Biologists and Neuroscientists. Explores the research area of Behavioral Endocrinology, a field that seeks biologically (in particular hormone)-based explanations of behavior. Offered Winter.
Prerequisite: PSY 1010 with a minimum grade of C- or BIO 1020 with a minimum grade of C-
Equivalent: BIO 4140

PSY 4310 Psychological Disorders of Children Cr. 3
Points of view, methods of study and research findings regarding psychopathology in children. Offered Fall.
Prerequisites: PSY 1010 with a minimum grade of C or PSY 1020 with a minimum grade of C

PSY 4320 Introduction to Clinical Psychology Cr. 3
An introduction to the methods, rationale, and empirical foundations of clinical psychology. Issues in the assessment and treatment of psychopathology. Offered Yearly.
Prerequisites: PSY 1010 with a minimum grade of C or PSY 1020 with a minimum grade of C

PSY 4330 Social Psychology of Close Relationships Cr. 3
Scientific study of close relationships, with a focus on romantic relationships. Current theories and research findings on various dynamics of relationship functioning from a social psychological perspective. Offered Intermittently.
Prerequisite: PSY 2600 with a minimum grade of D-

PSY 4990 Directed Study and Research Cr. 2-4
Library or laboratory study of an advanced problem in psychology under the guidance of a faculty member. Offered Every Term.
Repeatable for 9 Credits

PSY 4991 Honors Directed Study Cr. 2-4
Honors library or laboratory study of advanced problem in psychology under guidance of a faculty member. Offered Every Term.
Repeatable for 9 Credits

PSY 4993 Field Study Cr. 3
Assignment to a hospital, clinic or other agency under faculty supervision. Term paper on observations made in the field. Agency placement contingent upon appropriate background and training in psychology. Offered Fall, Winter.
Prerequisite: PSY 1010 with a minimum grade of C- or PSY 1030 with a minimum grade of C- and PSY 3310 with a minimum grade of C-
Repeatable for 6 Credits

PSY 4994 Special Projects Cr. 1-4
Departmental assignment to special projects for advanced students. Offered Every Term.
Prerequisite: PSY 1010 with a minimum grade of C or PSY 1030 with a minimum grade of C
Repeatable for 12 Credits

PSY 4995 Special Topics in Psychology Cr. 3
Topics of current interest to be announced in Schedule of Classes . Offered Intermittently.
Prerequisites: PSY 1010 with a minimum grade of D- or PSY 1020 with a minimum grade of D-
Repeatable for 6 Credits

PSY 4998 Senior Thesis Cr. 3
Research leading to the design and execution of a senior honors thesis in psychology. Offered Every Term.
Prerequisites: PSY 2010 with a minimum grade of C and PSY 2020 with a minimum grade of C and PSY 3993 with a minimum grade of C
Restriction(s): Enrollment is limited to students with a major in Psychology Honors.

PSY 5020 Honors Research in Psychology Cr. 3
Critical evaluation of scientific literature and the planning and development of psychological research proposals. Offered Fall, Winter.
Prerequisites: PSY 2010 with a minimum grade of C and PSY 2020 with a minimum grade of C and PSY 3993 with a minimum grade of C
Restriction(s): Enrollment is limited to students with a major in Psychology Honors.

PSY 5040 Cognitive Neuroscience Cr. 3
Brain processes and brain structures that support them, framed in terms of theoretical models and empirical evidence from brain imaging techniques and patient populations. Topics include attention, memory, space, language, and decision-making. Offered Yearly.
Prerequisites: PSY 3120 with a minimum grade of C

PSY 5070 Neuropharmacology Cr. 3
Physiological and behavioral bases of drug action, with emphasis on brain neurotransmitters, psychopharmacology, and substance abuse disorders. Offered Fall.
Prerequisites: PSY 3120 with a minimum grade of C or PSY 5050 with a minimum grade of C or BIO 1020 with a minimum grade of C

PSY 5080 Cellular Basis of Animal Behavior Cr. 3
Relationship between behavior and neuroscience using a variety of animal models, each examined from the level of natural behavior progressively to the cellular level. Topics include: sensory systems, motor behavior, and learning. Offered Winter.
Equivalent: BIO 5080

PSY 5100 Applied Statistics in Psychology Cr. 4
General linear model, coding techniques, multiple correlation and regression, analysis of variance and covariance, planned and post hoc tests, use of statistical computer packages. Offered Every Term.
Prerequisites: PSY 2020 with a minimum grade of C

PSY 5330 Human Neuropsychology Cr. 3
History of the development of human neuropsychology. Neuropsychological mechanisms underlying behavior and mental processes: sensory-motor mechanisms; integrative action of the nervous system; mechanisms involved in emotional behavior and learning and memory. Current perspectives of theories of brain organization and function and empirical foundations of neuropsychological assessment. Offered Yearly.
Prerequisites: PSY 1010 with a minimum grade of D- or PSY 1020 with a minimum grade of D-

PSY 5440 Developmental Neuropsychology Cr. 3
Neurobiology of development. Topics include: neuroplasticity throughout the life span, maturation of the brain and neural connectivity, neurodevelopment of behavioral, emotional, social and cognitive functions. This course will bridge human behavioral and animal models to illustrate the dexterity and limitations of available scientific methods to study developmental neuropsychology. Offered Intermittently.
Prerequisite: PSY 1010 with a minimum grade of C and PSY 3010 with a minimum grade of C

PSY 5700 The Psychology of African Americans Cr. 4
Methodological approaches to and theories of Black behavior and personality development. Topics include: race and pathology, life-span and psycho-sexual development, personality formation, social and environmental stress and adaptation. Offered Every Term.
Equivalent: AFS 5700

PSY 5710 Dispute Resolution Cr. 3
Overview of the processes and actors in the field of dispute resolution including negotiation, mediation, arbitration, and conciliation. Offered Yearly.
Equivalent: CRJ 5994, PCS 5000, PS 5890

PSY 5900 Culture, Language and Cognition Cr. 3
Systematic investigation of the relationships among, language, cognition and culture, including issues relating to human universals, cross-cultural concept formation, metaphor, classification and the evolution of cognition and language. Offered Every Other Winter.
Prerequisites: ANT 3310 with a minimum grade of D- or ANT 5320 with a minimum grade of D- or LIN 3310 with a minimum grade of D- or LIN 5320 with a minimum grade of D- or LIN 3080 with a minimum grade of D- or PSY 3080 with a minimum grade of D-
Restriction(s): Enrollment is limited to Graduate or Undergraduate level students.
Equivalent: ANT 5900, LIN 5900

PSY 6010 Family Centered Collaboration in Early Childhood Intervention and Special Education Cr. 3-4
Theories, concepts and practices of family centered intervention services for young children with special needs. Team-building and cross-disciplinary communication and collaboration with families. Offered Fall.
Equivalent: ELE 6010, SW 6010

PSY 6020 Political Psychology Cr. 3
Political attitudes and behavior of both ordinary citizens and political elites using theory and research that adopt a psychological perspective. Topics include: political socialization, ideological belief systems, role of mass media in shaping beliefs and attitudes, race and gender stereotypes and their psychological and political consequences, personality and the dynamics of political leadership. Offered Yearly.
Prerequisite: PSY 1010 with a minimum grade of D-
Equivalent: PS 6010

PSY 6200 Development of Memory Cr. 3
Major theoretical models of memory development will be discussed and used to explore various aspects of the memory process from infancy to adulthood. Offered Intermittently.
Prerequisites: PSY 3080 with a minimum grade of D- or PSY 2400 with a minimum grade of D-

PSY 6500 Advanced Psychological Statistics Cr. 3
Review of core statistical procedures; in-depth exploration of concepts of correlation and regression. Brief review of descriptive statistics and methods of statistical inference. Statistical software will be introduced and used. Offered for graduate credit only. Offered Yearly.
Restriction(s): Enrollment is limited to students with a major in Industrial/Organizational Psy.

PSY 6510 Organization Theory Cr. 3
Work organization theories, and history of social modeling; classical, neoclassical, and open system of contingency theories. Offered Yearly.
Restriction(s): Enrollment is limited to students with a major in Industrial/Organizational Psy.

PSY 6520 Organizational Behavior Cr. 3
Employee motivation, job attitudes, leadership and management development; related aspects of organizational behavior, design and development. Offered Yearly.
Restriction(s): Enrollment is limited to students with a major in Industrial/Organizational Psy.

PSY 6535 Psychometric Theory Cr. 3
Development, validation, and use of psychological tests and other psychological instruments. Origins and value of psychological testing. Offered Yearly.
Prerequisites: PSY 6500 with a minimum grade of B
Restriction(s): Enrollment is limited to students with a major in Industrial/Organizational Psy.

PSY 6550 Training and Employee Development Cr. 3
Theory and practice of organizational training, employee development, and management development; establishment of performance standards, performance appeal process, evaluation of training and development programs. Offered Yearly.
Restriction(s): Enrollment is limited to students with a major in Industrial/Organizational Psy.

PSY 6570 Research Methods in Industrial/Organizational Psychology Cr. 3
Field and lab research methods for workplace settings. Offered Yearly.
Restriction(s): Enrollment is limited to students with a major in Industrial/Organizational Psy.

PSY 6710 Psycholinguistics Cr. 3
Theory and research in various topics in psycholinguistics, including language development, speech perception and production, and language comprehension. Offered Intermittently.
Equivalent: LIN 6710

PSY 6995 Advanced Special Topics Cr. 3
Topics to be announced in Schedule of Classes . Offered Intermittently.
Restriction(s): Enrollment limited to students with a class of Unranked Grad or Senior.
Repeatable for 6 Credits

PSY 7010 History and Systems of Psychology Cr. 2-3
History and philosophical ideas that have influenced development of the scientific field of psychology. Core issues in philosophy of science; their integration with major theories, philosophies and trends in development of modern psychology. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Psychology.

PSY 7020 An Integrative Approach to Social, Cognitive and Developmental Psychology Cr. 3
Integration of three major topics in psychology. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Psychology.

PSY 7080 Human Cognition Cr. 3
Unified approach to human cognitive activity, including perception, attention, memory, language, concepts, and problem solving. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Psychology.

PSY 7090 Theories of Learning Cr. 3
Systematic examination of learning theories. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Psychology.

PSY 7120 Biological Basis of Behavior Cr. 3
Major literature relating the anatomy of the nervous system to psychological processes. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Psychology.

PSY 7140 Psychophysical and Scaling Methods Cr. 3
Major psychophysical methods; data analysis and written reports. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Psychology.

PSY 7150 Quantitative Methods in Psychology I Cr. 4
Introduction to statistical inference for psychologists. Bivariate measures of relationship and associated statistical tests: chi square, t-test, F test and selected rank order tests. Research methods including randomized designs, repeated measures, counter-balancing and Latin square designs, and quasi-experimental designs common to applied social science research, such as matched case controls, pre- and post- designs, and interrupted time-series. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Psychology.

PSY 7160 Psychometrics and Factor Analysis Cr. 3
Psychometric theory and psychological measurement including Factor Analysis and Item Response Theory. Offered Winter.
Prerequisites: PSY 7150 with a minimum grade of C (must be taken at WSU)
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Psychology.

PSY 7200 Psychological Assessment I Cr. 4
Psychometric theory and application emphasizing reliability, validity, utility and interpretation of selected intelligence, achievement, and objective personality tests, including the WAIS-IV and MMPI-2. Required lab section includes individual supervision on interviewing, testing, and report writing. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Psychology.

PSY 7210 Psychological Assessment II Cr. 4
Half of the course covers child intellectual and academic assessment, based on measures such as the WISC-IV and WIAT-II. The other half addresses adult personality assessment, based on measures such as the Rorschach and TAT. Emphasis on providing feedback and writing reports for clients. Required lab section includes individual supervision on interviewing, testing and report writing. Offered Winter.
Prerequisites: PSY 7200 with a minimum grade of B (must be taken at WSU)
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Psychology.

PSY 7230 Assessment Practicum Cr. 1
Students learn to conduct psychological assessments of adults and children. Skills taught include how to: a) generate clinical hypotheses; b) interview patients; c) select, administer, score, and interpret a range of psychological measures; d) integrate findings to answer assessment questions; e) write assessment reports; f) give feedback; and g) both receive and provide supervision. Unique aspects of assessing specific clinical conditions or disorders will be covered. Students will present cases based on assessments they conduct in the departmental training clinic. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Psychology.
Repeatable for 3 Credits

PSY 7240 Ethics, Professional Issues, and Diversity Cr. 1
Three separate sections of this course focus on ethical principles as applied to practice, research and teaching, human diversity. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Psychology; enrollment limited to students in a Doctor of Philosophy degree.
Repeatable for 3 Credits

PSY 7250 Theory of Personality Cr. 3
Major approaches to the study of personality. Current psychological research and issues in the field; implications for psychotherapy and assessment. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Psychology; enrollment limited to students in a Doctor of Philosophy degree.

PSY 7270 Reasearch Methods in Clinical Psychology Cr. 3
Examines a range of methods that address the most commonly asked questions in the science of clinical psychology. Topics include defining research questions, reviewing literatures, designing studies, collecting data, and interpreting data. Specific topics include observational methods, longitudinal designs, clinical trials, program evaluation, mediators and moderators, publishing, and grant writing. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Psychology; enrollment limited to students in a Doctor of Philosophy degree.

PSY 7300 Psychopathology Cr. 3
Basic psychological concepts of psychopathology with a focus on adult disorders. Current theory and research and their implications for clinical practice. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Psychology.

PSY 7310 Developmental Psychopathology Cr. 3
Processes of development as they relate to emergence and course of psychopathology from conception through young adulthood; theory and research on major forms of psychopathology with childhood and adolescent onset. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Psychology.

PSY 7330 Clinical Neuropsychology Cr. 3
History of the development of clinical neuropsychology. Current perspectives of theory and empirical foundations of neuropsychological assessment. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Psychology.

PSY 7340 Neuropathology and Behavior Cr. 3
Discussion of the current state of neuropathology and its cognitive consequences. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Psychology.

PSY 7370 Psychological Interventions I Cr. 3
Survey of intervention development, theory and research; focus on empirically-supported individual psychotherapy for adults and evidenced-based therapeutic processes. Offered Fall.
Prerequisites: PSY 7300 with a minimum grade of B
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Psychology.

PSY 7380 Psychological Interventions II Cr. 3
Survey of intervention development, theory and research; focus on evidence-based interventions for children and adolescents as well as systems (families, groups, communities). Offered Winter.
Prerequisites: PSY 7370 with a minimum grade of B (must be taken at WSU)
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Psychology.

PSY 7400 Introduction to Life-Span Developmental Psychology Cr. 3
Theory, methods and selected content areas; cognitive and social development as they relate to the entire life cycle. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Psychology.

PSY 7425 Psychology of Infant Behavior and Development Cr. 3
Prenatal development and infancy through the toddler years. Major theoretical positions and research relating to motor, perceptual, cognitive, language, social, and emotional development. Implications for parenting, programming, and care. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Psychology.

PSY 7430 Developmental Assessment of Infants and Toddlers Cr. 3
Overview of assessment methods; training in administration of the Bayley Scales of Infant development. No credit after PSY 6470. Offered Yearly.
Prerequisite: PSY 6420 with a minimum grade of C or PSY 7400 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Psychology.

PSY 7440 Cognitive Development Cr. 3
Current theoretical perspectives and related research on cognitive development in childhood; topics include cognition, memory, concepts, and language. Offered Intermittently.
Prerequisite: PSY 7400 with a minimum grade of B
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Psychology.

PSY 7450 Social Development Across the Life-Span Cr. 3
Recent perspectives on the psychological and environmental factors affecting social development across the life-span. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Psychology.

PSY 7470 Interdisciplinary Research Methods in Social, Cognitive and Developmental Psychology Cr. 3
Required of all first-year students in cognitive, developmental, and social psychology. Advanced survey of research design methods and issues across a broad array of social and behavioral fields, including cognitive, developmental, social, and personality psychology. Also covers Master's thesis development and ethical and professional issues. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Psychology.

PSY 7490 Psychology of Aging Cr. 3
Provides foundational familiarity with the diverse conceptual and empirical contributions of psychology to the scientific study of aging. The study of aging, gerontology, is multidisciplinary activity, which this course will reflect by integrating psychological approaches to aging with models of aging grounded in biology, genetics, neuroscience, as well as the social sciences. Major topics studied include research methods and design, longevity, aging of the brain and the cardiovascular system, health and well-being, memory, intelligence, emotions, personality, social behavior, and psychopathology. Offered Intermittently.
Prerequisite: PSY 7400 with a minimum grade of B
Restriction(s): Enrollment is limited to Graduate level students.

PSY 7500 Research Methods in Industrial/Organizational Psychology Cr. 3
Analysis of methodology and research design problems in the field of industrial psychology; discussion of professional and ethical problems. Offered Yearly.
Prerequisite: PSY 7150 with a minimum grade of B
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Psychology.

PSY 7510 Criterion Development and Performance Evaluation: Theory and Research Cr. 3
Nature and kinds of criteria of job performance; development and measurement of criteria; problems and issues in performance evaluation. Offered Yearly.
Prerequisite: PSY 7160 (may be taken concurrently) or PSY 7500 (may be taken concurrently)
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Psychology.

PSY 7520 Selection and Placement: Theory and Research Cr. 3
Principles in development and evaluation of employee selection procedures; methods for establishing job-relatedness; problems and issues in evaluation and use of employee selection procedures. Offered Every Other Year.
Prerequisite: PSY 7160 (may be taken concurrently) with a minimum grade of B or PSY 7500 (may be taken concurrently) with a minimum grade of B
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Psychology.

PSY 7560 Leadership and Executive Development: Theory and Research Cr. 3
Selected leadership research studies; theories relating to leadership; principles of training and development. Offered Every Other Year.
Prerequisite: PSY 7500 with a minimum grade of B
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Psychology.

PSY 7570 Industrial Motivation and Morale: Theory and Research Cr. 3
Meaning of motivation and incentive as used in industry; research methods for study of motivation, job satisfaction, and morale; research data and interpretations in theoretical frameworks. Offered Every Other Year.
Prerequisite: PSY 7500 with a minimum grade of B
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Psychology.

PSY 7590 Industrial and Organizational Psychology Cr. 3
Lecture, discussion, analysis of articles and chapters, in-class exercises. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Psychology.

PSY 7620 Social Psychology: Research and Theory Cr. 3
Graduate-level introduction to the major theoretical and research areas of social psychology; current issues and research. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Psychology.

PSY 7645 Social Psychology of Close Relationships Cr. 3
Social Psychological theory and research that examines the dynamics of close relationships, including relationship formation, maintenance, enhancement, and dissolution. Offered Every Other Year.
Prerequisite: PSY 7620 with a minimum grade of B
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Psychology.

PSY 7745 Job Analysis and Performance Criteria Cr. 3
Job analysis methods, criterion development, and performance appraisal. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Industrial/Organizational Psy.

PSY 7750 Organizational Staffing Cr. 3
Recruitment, screening, and personnel selection. Offered Yearly.
Prerequisites: PSY 7745 with a minimum grade of B (must be taken at WSU)
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Industrial/Organizational Psy.

PSY 7770 Testing in the Workplace Cr. 3
Test development; in-depth discussion of existing tests. Offered Yearly.
Prerequisites: PSY 6535 with a minimum grade of B (must be taken at WSU)
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Industrial/Organizational Psy.
Course Material Fees: $100

PSY 7780 Industrial/Organizational Psychology Cr. 1
Approved internship field placement for a period of one semester to two years. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Industrial/Organizational Psy.
Repeatable for 4 Credits

PSY 7790 Capstone Course Cr. 3
Special topics in I/O psychology. Students write a major paper or conduct an individual project. Offered Spring/Summer.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Industrial/Organizational Psy.

PSY 7990 Directed Study Cr. 1-9
For students who wish further study of technical literature of a problem systematically reviewed in a preceding course. Intensive and systematic reading of original literature (particularly journals) dealing with topic or problem. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Psychology.
Repeatable for 9 Credits

PSY 7991 Current Topics in Behavioral Neuroscience Cr. 1
Discussion of current papers in the field. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Psychology.
Repeatable for 12 Credits

PSY 7997 Research Problems Cr. 1-8
Original research under direction of departmental staff. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Psychology.
Repeatable for 32 Credits

PSY 8000 Clinical Internship Cr. 1
Approved placement in an APA accredited internship for a one- to two-year period. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Psychology.
Repeatable for 3 Credits

PSY 8040 Social Neuroscience Cr. 3
Neurobiology of social cognition. Topics include: social communication, decision making, group dynamics, face/race processing, action and gesture cognition, emotional processing, development. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Psychology.

PSY 8050 Cognitive Neuroscience Cr. 3
Concepts and methods used to study neurobiological basis of cognition, covering brain systems involved in perception, attention, memory, language, and decision making, as well as life-span development of brain, cognition and psychopathology. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Psychology.

PSY 8060 Functional Neuroanatomy Cr. 4
Anatomical features of the human nervous system; emphasis on relationship between neural structure and behavior. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Psychology.
Course Material Fees: $15

PSY 8065 Neurophysiology and Neural Plasticity Cr. 3
Physiological and molecular properties of neurons and the relationship of neural plasticity to behavior and development. Offered Every Other Year.
Prerequisites: PSY 8060 with a minimum grade of C (must be taken at WSU)
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Psychology.

PSY 8070 Psychopharmacology Cr. 3
Psychological and biological bases of psychopharmacology; emphasis on preclinical models and development of treatments for psychological disorders. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Psychology.

PSY 8140 Meta-Analysis Cr. 2-3
Use of quantitative techniques for summarizing research results in psychology. Offered Spring/Summer.
Prerequisites: PSY 8150 with a minimum grade of B (must be taken at WSU)
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Psychology.

PSY 8150 Multivariate Analysis in Psychology Cr. 4
Extension of the general linear model to multivariate statistical techniques, including: exploratory factor analysis and principal components analysis, confirmatory factor analysis, discriminant function analysis, canonical correlation analysis, and multivariant analysis of variance. Offered Winter.
Prerequisite: PSY 7150 with a minimum grade of B
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Psychology.

PSY 8170 Structural Equation Modeling Cr. 3
Practical introduction to structural equation modeling. Offered Yearly.
Prerequisites: PSY 7160 with a minimum grade of B (must be taken at WSU)
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Psychology.

PSY 8300 Health Psychology I Cr. 3
Theoretical and empirical review of major topics in behavioral approaches to health and illness, including: 1) theories of health behavior and behavior change; 2) psychological impact of acute and chronic physical illness; and 3) health care utilization including health disparities, patient-provider communication, and psychosocial factors that affect adherence. . Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Psychology.

PSY 8310 Health Psychology II Cr. 3
Applied issues in health psychology and behavioral medicine. Focus on research and practice related to assessment and intervention with medical populations and changing health behavior. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Psychology.

PSY 8320 Biobases of Health Psych Cr. 3
Offered Every Other Year.
Prerequisites: PSY 8300 with a minimum grade of B or PSY 8310 with a minimum grade of B
Restriction(s): Enrollment is limited to Graduate level students.

PSY 8340 Clinical Neuropsychological Assessment Cr. 3
Review of principles and literature on neuropsychological assessment, common neuropsychological tests and test batteries, in context of actual clinical cases. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Psychology.

PSY 8350 Community Psychology Cr. 3
Current findings, theory, and research in the field of community psychology. Emphasis on current urban problems. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Psychology.

PSY 8390 Therapeutic Intervention Practicum Cr. 1
Students learn to conduct evidence-based psychological interventions with adults, children, couples, and families. Skills taught include how to: a) develop case conceptualizations based on different theoretical models; b) apply techniques from motivational, cognitive-behavioral, relational, psychodynamic, and other therapies; c) develop and maintain the therapeutic alliance; d) track outcomes and modify approach as needed; e) terminate cases; and f) both receive and provide supervision. Unique aspects of intervening for specific clinical conditions or disorders will be covered. Students will present cases based on interventions they conduct in the departmental training clinic. Offered Every Term.
Prerequisites: PSY 7380 with a minimum grade of B (must be taken at WSU)
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Psychology.
Repeatable for 3 Credits

PSY 8400 Current Issues in Developmental Psychology Cr. 3
Integrative seminar in current theoretical and empirical issues. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Psychology.
Repeatable for 9 Credits

PSY 8440 Developmental Neuropsychology Cr. 3
Neurobiology of development. Topics include: neuroplasticity throughout the life span, maturation of the brain and neural connectivity, neurodevelopment of behavioral, emotional, social and cognitive functions. This course will bridge human behavioral and animal models to illustrate the dexterity and limitations of available scientific methods to study developmental neuropsychology. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students in the Department of Psychology.

PSY 8500 Seminar in Industrial/Organizational Psychology Cr. 1-3
For industrial/organizational psychology students. Current topics in industrial psychology; content varies. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Psychology.
Repeatable for 15 Credits

PSY 8560 Models and Methods in Psychopharmacology Cr. 3
Psychological and biological bases of psychopharmacology; emphasis on methods, models and theories in basic preclinical research. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Psychology.

PSY 8600 Seminar in Experimental Social Psychology Cr. 3
Review and evaluation of the literature on some current topic of research or theoretical concern. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Psychology.
Repeatable for 9 Credits

PSY 8620 Social Cognition Cr. 3
How mental representations underlie the processes of social thought and behavior. Students survey, evaluate, and discuss social cognition processes and research; group work to design and conduct tests of social-cognitive processes. Offered Every Other Winter.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Psychology.

PSY 8740 Seminar in Psychological Measurement and Statistics Cr. 2-3
Topics in measurement and statistical analysis; exploratory data analysis and related problems; multidimensional scaling and clustering techniques; time series analysis; analysis of longitudinal data; item response theory and tailored testing; statistical power. Offered Intermittently.
Prerequisites: PSY 7160 with a minimum grade of B (must be taken at WSU)
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Psychology.
Repeatable for 9 Credits

PSY 8760 Seminar in Clinical Psychology Cr. 1-3
New clinical methods and scientific developments in the field of clinical psychology. Meets with continuing education seminars in clinical psychology. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Psychology.
Repeatable for 9 Credits

PSY 8999 Master's Thesis Research and Direction Cr. 1-8
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Psychology.
Repeatable for 8 Credits

PSY 9990 Pre-Doctoral Candidacy Research Cr. 1-8
Research in preparation for doctoral dissertation. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 12 Credits

PSY 9991 Doctoral Candidate Status I: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.

PSY 9992 Doctoral Candidate Status II: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: PSY 9991 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

PSY 9993 Doctoral Candidate Status III: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: PSY 9992 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

PSY 9994 Doctoral Candidate Status IV: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: PSY 9993 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

PSY 9995 Candidate Maintenance Status: Doctoral Dissertation Research and Direction Cr. 0
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $370.26
Repeatable for 0 Credits

PT - PHYSICAL THERAPY

PT 5010 Clinical Applications I Cr. 1
First part-time integrated clinical experience for physical therapy students. Orientation to clinical education and PT practice to develop professional behaviors, observation skills, fundamentals of written and verbal communication and basic examination and intervention skills in a clinical setting. Offered Winter.
Course Material Fees: $50

PT 5020 Foundations of Physical Therapy Cr. 2
Satisfies General Education Requirement: Writing Intensive Competency
Sociological and historical background of the PT profession. Professional behavior, patient care interaction and medical terminology. Basic physical therapy care procedures, documentation, patient education, care in medical emergencies. Offered Fall.
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.
Course Material Fees: $55

PT 5030 Basic Patient Care in Physical Therapy Cr. 2
Introduction to the basic skills necessary for patient care and provide a foundation to the theory and practice of basic patient care procedures for the Physical Therapist. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences; enrollment limited to students in a Doctor of Physical Therapy degree.

PT 5070 Clinical Applications II Cr. 2
Second part-time integrated clinical experience for physical therapy students. This clinical education course includes and orientation to basic and intermediate examination and intervention skills, professional behavior, communication, documentation, inter-professional collaboration and team work. Offered Fall.
Prerequisite: PT 5010 (may be taken concurrently)

PT 5100 Therapeutic Exercise I Cr. 3
Foundational course designed to focus on the principles and techniques of therapeutic exercise for patients with pathological conditions to the neuromusculoskeletal system. Students will develop and administer treatment plans for specific patient problems and progress treatment plans based on patient condition and response to treatment. Offered Fall.
Prerequisite: PT 5430 and PT 5500
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.
Course Material Fees: $50

PT 5120 Human Growth and Development Cr. 2
Theories and basic principles in prenatal, physical, sensorimotor, perceptual, cognitive, social, emotional and language growth and development. Implications for physical therapy evaluation and treatment of children with developmental disabilities. Offered Spring/Summer.
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.
Course Material Fees: $10

PT 5300 Surface Anatomy Cr. 2
Laboratory-based course teaching skills for soft tissue palpation, identification of surface anatomy landmarks, soft tissue mobilization and massage. Offered Fall.
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

PT 5320 Basic Examination and Evaluation Procedures Cr. 3
Lecture and laboratory experience focusing on principles and procedures of foundational medical screening, physical therapy differentiation, and clinical reasoning and decision-making skills; basic principles and techniques for posture, integumentary, neurological, range of motion, and strength examination and evaluation, documenting progress and outcome, and the continued development of patient care skills. Offered Winter.
Prerequisite: PT 5030 and PT 5300 and PT 5505
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.
Course Material Fees: $10

PT 5400 Neurosciences for Health Care Professionals Cr. 3
Study of the human central nervous system; emphasis on sensory and motor systems and structures that contribute to normal movement. Offered Fall.
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.
Course Material Fees: $50
Equivalent: OT 5400

PT 5410 Clinical Medicine I Cr. 3
Designed to provide specific information needed by the physical therapist treating patients with a variety of diseases. Pathology, etiology, clinical signs and symptoms, prognosis, and treatment of a variety of illnesses and conditions relevant to physical therapy treatment are covered. The role of other health care specialists including physician, occupational therapist, speech pathologist, nurses and psychologists is explored. Offered Winter.
Restriction(s): Enrollment is limited to students with a major in Physical Therapy.

PT 5430 Clinical Medicine II Cr. 1
Disease processes, and medical and surgical interventions. Role of physical therapy as part of comprehensive multi-disciplinary health care team. Offered Spring/Summer.
Prerequisite: PT 5410
Restriction(s): Enrollment is limited to students with a major in Physical Therapy.

PT 5500 Kinesiology and Biomechanics Cr. 3
Normal movement and biomechanics applied to the human body. Offered Winter.
Prerequisite: PT 5505 and PT 5510 and PT 5400
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.
Course Material Fees: $10

PT 5505 Clinical Applications of Human Anatomy Cr. 3
Knowledge of basic human anatomy for students in health science professional programs; foundation for further study in clinical sciences. Offered Fall.
Restriction(s): Enrollment is limited to students with a major, minor, or concentration in Occupational Therapy or Physical Therapy.
Equivalent: OT 5505

PT 5510 Clinical Applications of Human Anatomy: Laboratory Cr. 1
Examination of prosections, dissection of human cadavers; didactic study. Offered Fall.
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.
Course Material Fees: $220
Equivalent: OT 5510

PT 5650 Pathophysiology for Health Sciences Cr. 3
Fundamental knowledge of the nature of disease for the health sciences student; physiologic and morphologic changes accompanying disease processes; mechanisms of repair and recovery. Offered Winter.
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.
Equivalent: OT 5650, RT 5650

PT 5660 Pathokinesiology Cr. 3
Continuation of P T 5500 designed to teach the biomechanical and kinesiological principles of human movement as related to anatomical and neuroanatomical structure. Analysis of pathological motion and pathokinesiology of selected joints will be included. Offered Spring/Summer.
Prerequisite: PT 5500
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.
Course Material Fees: $10

PT 5800 Clinical Education I Cr. 3
First of a four-course clinical education series. Six weeks of full-time supervised clinical experience for physical therapy students. Offered Yearly.
Prerequisite: PT 7120 with a minimum grade of C or PT 7220 with a minimum grade of C
Course Material Fees: $20

PT 5820 Clinical Education II Cr. 3
Second of a four-course clinical education series. Six-week of full-time supervised clinical experience for physical therapy students. Offered Spring/Summer.
Prerequisite: PT 7120 with a minimum grade of C or PT 7220 with a minimum grade of C
Restriction(s): Enrollment limited to students in the Doctor of Physical Therapy program.
Course Material Fees: $30

PT 6100 Therapeutic Exercise II Cr. 3
Advanced application of principles and techniques of therapeutic exercise; evaluation and modification of therapeutic exercise plan of care, based on physical and functional responses and characteristics of patients or clients. Offered Fall.
Prerequisite: PT 5100
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.
Course Material Fees: $60

PT 6200 Diversity, Ethics and Legal Issues in Health Care Cr. 3
Impact of diversity and legal practice standards, including federal, state, and institutional regulations related to patient care and fiscal management of health care practice. Issues in cultural awareness, cultural sensitivity, cultural competence, ethics, and ethical decision making in personal, professional, and societal contexts. Self-analysis of personal attitudes, values, and beliefs. Offered Winter.
Prerequisite: PT 5020
Restriction(s): Enrollment is limited to students with a major in Physical Therapy.

PT 6300 Research I: Critical Thinking Cr. 2
Introduction to evidence-based practice and clinical reasoning and decision making. Identification, location, critique and analysis of evidence. Offered Fall, Winter.

PT 6310 Physiology of Exercise II Cr. 3
Metabolic, neuromuscular, cardiovascular, and respiratory adjustments to acute and chronic exercise in health and disease, including body composition and weight control, nutritional considerations, and the effects of different environments on exercise performance. Offered Fall.
Restriction(s): Enrollment is limited to students with a major in Physical Therapy.
Equivalent: KIN 6310, PSL 6010

PT 6400 Teaching and Learning in Health Care Cr. 2-3
Exploration of theoretical and practical issues pertinent to physical therapy profession: educational methods, adult learning theories, instructional design methodologies, evaluation, instructional management. Additional project required if elected for three credits. Offered Winter.
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

PT 6500 Pharmacology Cr. 2
Effects of drug distribution, absorption and excretion as pertaining to physical therapy. Major drug categories, OTC, and nutritional supplements, pertinent to acute and chronic responses to physical therapy; indications, mechanisms, effects. Offered Fall.
Prerequisite: PT 5430 and PT 5650
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

PT 6700 Motor Learning and Motor Control Cr. 2-3
Current theories and concepts in processes of motor skill acquisition and performance, from a behavioral objective. Additional evidence-based case reports required if elected for three credits. Offered Winter.
Prerequisite: PT 5400 with a minimum grade of C-
Restriction(s): Enrollment limited to students in the Pharmacy and Health Sciences.

PT 6750 Seminar: Complementary and Alternative Health Care Cr. 2
Physical, psychological, and nutritional approaches relevant to practice of physical therapy. Seminar course. Offered Winter.
Prerequisite: PT 5430 and PT 6300
Restriction(s): Enrollment is limited to students with a major in Physical Therapy.

PT 7000 Therapeutic Modalities Cr. 3
Lecture and laboratory experiences focusing on principles and procedures for using physical agents and spinal traction. Tissue inflammation and repair, pain, superficial and deep heat, cryotherapy, electrotherapy, and spinal traction included. Integumentary evaluation and wound management. Offered Fall.
Prerequisite: PT 5430 and PT 5660
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.
Course Material Fees: $20

PT 7100 Management of Patients with Orthopedic Conditions I Cr. 3
Lecture and laboratory experience focusing on knowledge, principles, clinical reasoning and decision making skills, examination and evaluation procedures, and interventions required for managing patients with impairments, functional limitations, and disabilities due to musculoskeletal pathologies of the extremity joints across the life span, and the continued development of patient care skills. Offered Fall.
Prerequisite: PT 5300 with a minimum grade of C and PT 5320 with a minimum grade of C and PT 5500 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Physical Therapy.
Course Material Fees: $15

PT 7120 Management of Patients with Orthopedic Conditions II Cr. 3
Lecture and laboratory experience focusing on knowledge, principles, clinical reasoning and decision making skills, examination and evaluation procedures, and interventions required for managing patients with impairments, functional limitations, and disabilities due to musculoskeletal pathologies of the spinal column and extremity joints across the life span, and the continued development of patient care skills. Offered Winter.
Prerequisite: PT 7100
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.
Course Material Fees: $15

PT 7200 Management of Patients with Neurological Disorders I Cr. 3
Basic principles and techniques of assessing problems associated with neurological disorders including postural tone, sensation, superficial and developmental reflexes, quality of movement, perceptual-motor skills and functional mobility. Offered Yearly.
Prerequisite: PT 5400 and PT 6700
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $15

PT 7220 Management of Patients with Neurological Disorders II Cr. 3
Theory, principles and application of the neurophysiological approach to evaluation and treatment. Proprioceptive neuromuscular facilitation, neuro development treatment, sensory integration, and sensory-motor approaches. Offered Winter.
Prerequisite: PT 7200
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.
Course Material Fees: $15

PT 7300 Orthotics and Prosthetics Cr. 3
Principles and techniques of prosthetic and orthotic function, component selection and application, use and training. Upper and lower extremity devices, and spinal devices, wheelchairs, ambulatory aids, assistive devices and environmental control systems. Advanced gait and movement biomechanics and evaluation. Offered Fall.
Prerequisite: PT 5500 and PT 5660 and PT 7200
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Physical Therapy.
Course Material Fees: $20

PT 7320 Rehabilitation Procedures Cr. 3
Theoretical issues and treatment of patients with spinal cord injury, traumatic brain injury, problems of aging, and chronic neuromuscular conditions. Offered Fall.
Prerequisite: PT 7200 and PT 7220
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Physical Therapy.

PT 7400 Cardiopulmonary Rehabilitation Cr. 4
Physiology and pathophysiology of disorders of the cardiac and pulmonary systems. Evaluation and treatment of cardiopulmonary disorders. Offered Winter.
Prerequisite: PT 5100 and PT 5430 and PT 6310
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.
Course Material Fees: $20

PT 7600 Physical Therapy for Medical and Surgical Conditions Cr. 3
Management of patients with complex problems including medical and surgical conditions seen in acute care hospital settings. Offered Winter.
Prerequisite: PT 5650 and PT 5430
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.
Course Material Fees: $25

PT 7700 Research II: Design & Methodology Cr. 2
Introduction to basic principles of research theory, design, and methodology for physical therapy. Biostatistics and analysis of scientific literature relevant to physical therapy. Offered Fall.
Prerequisite: PT 6300
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

PT 7720 Research III: Data Analysis and Interpretation Cr. 2
Basic principles of research design as it relates to the theory and practice of physical therapy Students will analyze relevant scientific literature, design, develop and implement a research project, and learn basic computer skills in utilizing a statistical analysis program. Offered Fall.
Prerequisite: PT 7700 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Physical Therapy.
Course Material Fees: $20

PT 7740 Research IV: Research Practicum Cr. 1
Basic principles of research design as it relates to the theory and practice of physical therapy. Students will develop and implement a research project and present the results in several formats. Offered Fall.
Prerequisites: PT 6300 and PT 7700 and PT 7720
Restriction(s): Enrollment is limited to Graduate level students.

PT 7990 Directed Study Cr. 1-4
Independent study: critical analysis or review of new or unique topics in health care; or physical therapy role, approach, methodology, techniques or scientific rational for professional practice. Oral and written presentation required. Elective. Offered Yearly.
Prerequisite: PT 5100
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

PT 8000 Therapeutic Management of Pediatric Populations Cr. 3
Principles and application of the elements of physical therapy practice in the management of pediatric populations. Offered Fall.
Prerequisite: PT 5120 with a minimum grade of C and PT 6700 with a minimum grade of C and PT 7220 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Physical Therapy.
Course Material Fees: $15

PT 8110 Geriatrics Cr. 2
Theories and basic principles of physical, sensorimotor, perceptual, cognitive, social, emotional, and language changes during the aging process. Emphasis is placed on the how the aging process impacts functional independence and contributions from all body systems. Implications for physical therapy evaluation and treatment for the aging population are examined. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Physical Therapy.

PT 8170 Professional Development and Reflective Practice Cr. 3
Exploration of novice vs. expert practice in physical therapy; role of reflection in developing professional skills and behaviors. Current professional and legal issues in provision of physical therapy services. Web-based course. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences; enrollment limited to students in the Doctor of Physical Therapy program.

PT 8200 Management in Physical Therapy Practice Cr. 2
Overview of health care systems; financing and administration of physical therapy services within various health care systems. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences; enrollment limited to students in the Doctor of Physical Therapy program.

PT 8300 Differential Diagnosis for Health Sciences Cr. 3
Principles and procedures designed to facilitate the integration of previously-introduced examination and evaluation skills, in order to perform differential diagnosis for primary care practice. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences; enrollment limited to students in the Doctor of Physical Therapy program.

PT 8400 Diagnostic Procedures for Health Sciences Cr. 2-3
Medical diagnostic procedures and application of results as related to provision of physical therapy health services, including diagnostic imaging and laboratory tests. Additional project required if elected for three credits. Offered Every Term.
Prerequisite: PT 5650 with a minimum grade of C and PT 5430 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

PT 8500 Clinical Decision Making Cr. 3
Integration of didactic and clinical knowledge in development of diagnostic prognostic skills in physical therapy; focus on refining competencies in peer referral across health care disciplines; development of strategies for clinical decision making. Offered Yearly.
Prerequisite: PT 6100 with a minimum grade of C and PT 7120 with a minimum grade of C and PT 7220 with a minimum grade of C and PT 7400 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Doctor of Physical Therapy program.
Course Material Fees: $80

PT 8600 Health Promotion and Wellness Cr. 2
Dimensions of health promotion and wellness, including implementation strategies for different populations. Analysis of physical, emotional and cost benefits. Identification of needs and development of practice plan for groups and individuals. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Physical Therapy.

PT 8800 Clinical Education III Cr. 4
Third in a four-course clinical education series. Twelve weeks of full-time supervised terminal clinical experience for physical therapy students with emphasis on progression to entry-level clinician. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Physical Therapy.
Course Material Fees: $20

PT 8820 Clinical Education IV Cr. 8
Fourth in a four-course clinical education series. Final full-time supervised terminal clinical experience for physical therapy students. Twelve week full time experience with emphasis on progression to entry-level clinician. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Physical Therapy.
Course Material Fees: $30

PT 8850 Clinical Practicum Cr. 3
Monitored clinical practice in a focused area of physical therapy practice. Focus may include: administration and management, cardiopulmonary, neurology, orthopedics, integumentary care, pediatrics, and teaching. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

PTH - PATHOLOGY

PTH 7000 General Pathology Cr. 5
The structural and functional manifestations of disease. Concepts of biochemistry, physiology and cell biology are utilized in developing a dynamic approach to the study of the abnormal cell and its constituents. Basic mechanisms are stressed. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.

PTH 7080 Special Topics in Pathology Cr. 1-15
Frontier areas in experimental pathology and clinical laboratory sciences. Format may be lecture, laboratory, or discussion; topics to be announced in Schedule of Classes . Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 20 Credits

PTH 7085 Critical Review of Scientific Publications Cr. 1
For Ph.D. students in biomedical fields. Current experimental approaches in medical research. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Pathology; enrollment limited to students in the PhD in Medicine program.
Repeatable for 5 Credits

PTH 7090 Signal Transduction and Cell Growth Regulation Cr. 3
Signal transduction pathways, both cellular and molecular, and their alterations in cancer. Journal articles and instructor handouts used; emphasis on relationship to disease process. Offered Every Other Winter.
Prerequisites: IBS 7015 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

PTH 7130 Neuropathology Cr. 2
Offered Yearly.
Prerequisites: PTH 7000 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

PTH 7150 Pathology of Respiratory Tract Cr. 2
Offered Yearly.
Prerequisites: PTH 7000 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

PTH 7180 Cardiovascular Pathology Cr. 2
Gross, microscopic and submicroscopic anatomy and pathophysiology of cardiovascular disease, both human and experimental. Offered Yearly.
Prerequisites: PTH 7000 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

PTH 7330 Pathology of the Kidney Cr. 2
Techniques of preparing renal biopsies for light and electron microscopy and immunofluorescent studies; ultrastructure of normal kidney; physiology of kidney - acute and chronic renal failure; glomerular disease; pyelonephritis; vascular disease; and acute tubular necrosis and renal transplantation. Offered Yearly.
Prerequisites: PTH 7000 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

PTH 7500 Systemic Pathophysiology Cr. 3
Pathology and pathogenesis underlying abnormal physiologic function of major organ systems in humans. Offered Yearly.
Prerequisite: PSL 7010 with a minimum grade of C and BCH 7010 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $25

PTH 7890 Seminar Cr. 1
Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Pathology; enrollment limited to students in a Doctor of Philosophy degree.
Repeatable for 25 Credits

PTH 7990 Directed Study in Clinical Pathology and Pathologic Anatomy Cr. 2
Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Pathology; enrollment limited to students in the PhD in Medicine program.
Repeatable for 12 Credits

PTH 8000 Current Topics in Tumor Metastasis Cr. 3
Advances in research on key aspects of tumor metastasis; emphasis on molecular mechanisms, tumor invasion, angiogenesis, and organ-specific tumor metastasis. Offered Fall.
Prerequisites: IBS 7015 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

PTH 8010 Molecular Biology of Diabetes and Obesity Cr. 2
Basic principles and current research topics in the etiology and pathology of diabetes; diabetic complications and obesity. Offered Every Other Fall.
Prerequisites: IBS 7015 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students with a class of Applicant Masters, Candidate Masters or Doctoral Candidate.

PTH 9990 Pre-Doctoral Candidacy Research Cr. 1-8
Research in preparation for doctoral dissertation. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 12 Credits

PTH 9991 Doctoral Candidate Status I: Dissertation Research and Direction Cr. 7.5
Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.

PTH 9992 Doctoral Candidate Status II: Dissertation Research and Direction Cr. 7.5
Offered Yearly.
Prerequisite: PTH 9991 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

PTH 9993 Doctoral Candidate Status III: Dissertation Research and Direction Cr. 7.5
Offered Yearly.
Prerequisite: PTH 9992 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

PTH 9994 Doctoral Candidate Status IV: Dissertation Research and Direction Cr. 7.5
Offered Yearly.
Prerequisite: PTH 9993 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

PTH 9995 Candidate Maintenance Status: Doctoral Dissertation Research and Direction Cr. 0
Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $370.26
Repeatable for 0 Credits

PYC - PSYCHIATRY

PYC 6050 Biology of the Eye Cr. 3
Introduction to biology of eye structure/function, and to causes and clinical treatments of eye-related disorders and diseases. Offered Yearly.
Restriction(s): Enrollment is limited to Undergraduate level students.
Course Material Fees: $25
Equivalent: ANA 6050, BIO 6055

PYC 7010 Neurobiology I Cr. 3
First part of a two-semester in-depth study of nerve cells, their organization into functional circuits and their mediation of normal and aberrant behaviors. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.

PYC 7140 Fundamentals of Neuroimaging Cr. 3
Overview of methods: PET, EEG/ERP/TMS, fundamentals of MR, structural MRI, functional MR, MR spectroscopy and DTI. Review of the application of these methods in studying disorders of the nervous system. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students.

PYC 7150 Fundamentals of Neuropsychiatric Disorders Cr. 3
Overview of pathophysiology, clinical manifestations, and treatment of major neuropsychiatric disorders. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Medicine.

PYC 7320 MR Imaging of Neurovascular Disease Cr. 3
Recent advances in MRI technology applied to human brain vascular diseases. Methods include: 3D anatomical imaging, diffusion tensor imaging, functional brain imaging, perfusion hanging, and susceptibility weighted imaging. Offered Every Other Fall.
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: BME 7720

PYC 7500 Advanced Topics in Neuroscience Cr. 1-6
Topics offered each semester in one-credit modules, relevant to ongoing research in the degree program. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 9 Credits

PYC 7515 Advanced Topics: Imaging, Neurodevelopment and Psychiatric Disorders Cr. 3
Advanced introduction to imaging neurodevelopment based on anatomical, biochemical and functional studies; focus on abnormal development of psychiatric disorders. Offered Every Other Winter.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in a Doctor of Philosophy degree.

PYC 7890 Research Seminar Cr. 1
Presentations by clinical and basic research staff and by the program's graduate students. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 8 Credits

PYC 7950 Psychology/Psychiatry Internship Cr. 3
Development of psychotherapy and psychological assessment skills, based on psychological theory and research. Training program is customized for each pre-doctoral intern, based on training needs and career objectives. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.

PYC 7990 Directed Study Cr. 1-6
Independent study under the guidance of an advisor, including complete review of a problem area immediately relevant to basic or clinical neuroscience. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 10 Credits

PYC 7996 Research Problems Cr. 3
Directed laboratory rotation for graduate students in the translational neuroscience program. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 9 Credits

PYC 7998 Clinical Neuroscience Rotation Cr. 3,6
Neuroscience trainees become familiar with clinical issues in their chosen area of study; transfer of basic science knowledge to clinical application. Offered Every Term.
Prerequisites: PYC 7150 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 6 Credits

PYC 8999 Master's Thesis Research and Direction Cr. 1-8
Preparation in writing of a scholarly proposal and thesis. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students with a class of Candidate Masters.
Repeatable for 8 Credits

PYC 9990 Pre-Doctoral Candidacy Research Cr. 1-8
Research in preparation for doctoral dissertation. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 12 Credits

PYC 9991 Doctoral Candidate Status I: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.

PYC 9992 Doctoral Candidate Status II: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: PYC 9991 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

PYC 9993 Doctoral Candidate Status III: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: PYC 9992 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

PYC 9994 Doctoral Candidate Status IV: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: PYC 9993 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

PYC 9995 Candidate Maintenance Status: Doctoral Dissertation Research and Direction Cr. 0
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $370.26
Repeatable for 0 Credits

RAS - RADIOLOGIST ASSISTANT STUDIES

RAS 7000 Physics of Imaging Cr. 4
Survey course for the advanced practitioner in graduate radiologic sciences. Offered Spring/Summer.
Prerequisite: RAS 7610 with a minimum grade of C and RAS 7070 with a minimum grade of C and RAS 7320 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the MS in Radiologist Asst Studies program.

RAS 7070 Radiation Safety Cr. 2
Operational safety and imaging of fluoroscopic equipment in the clinical setting; for advanced practitioners in graduate radiologic sciences. Offered Spring/Summer.
Prerequisite: RAS 7610 with a minimum grade of C and RAS 7000 with a minimum grade of C and RAS 7320 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the MS in Radiologist Asst Studies program.

RAS 7320 Radiologist Mentored Experience II Cr. 5
Continuation of RAS 7310. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

RAS 7330 Radiologist Mentored Experience III Cr. 5
Continuation of RAS 7320. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

RAS 7400 Patient Assessment for RAs Cr. 3
Physical examination and assessment. Offered Spring/Summer.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

RAS 7410 Clinical Correlation of Disease Processes Cr. 1
Collection of pertinent data about patient and procedure. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

RAS 7610 Radiologic Procedures I Cr. 1
Radiologic imaging procedural fundamentals.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

RAS 7620 Radiologic Procedures II Cr. 1
Advanced radiologic procedures for the radiologist assistant. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Pharmacy and Health Sciences.

RCI - REHABILITATION COUNSELING AND COMMUNITY INCLUSION

RCI 7110 Techniques of Rehabilitation Counseling Cr. 3
Techniques and process of counseling of counseling including: facilitative relationships, case conceptualization, goal setting, intervention, and outcome evaluation. Development of skills with respect to psychological, social, and vocational implications of disabilities on adjustment. Offered Yearly.
Prerequisites: CED 6080 with a minimum grade of C and CED 7000 with a minimum grade of C and CED 7001 with a minimum grade of C and CED 7080 with a minimum grade of C and RCI 7410 with a minimum grade of C and RCI 7420 with a minimum grade of C and RCI 7450 with a minimum grade of C and RCI 7480 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major, minor, or concentration in Rehab Couns & Comm Inclusion.
Equivalent: CED 7040

RCI 7120 Assessment for Counselors and Rehabilitation Cr. 3
Overview of psychological, educational and vocational assessment techniques, including specific assessment applications such as clinical assessment, communicating assessment results, assessment with diverse populations, and ethical issues. Offered Winter.
Prerequisites: RCI 7410 with a minimum grade of C, RCI 7420 with a minimum grade of C, and RCI 7480 with a minimum grade of C or CED 6070 with a minimum grade of C and CED 6080 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $52
Equivalent: CED 7120

RCI 7150 Rehabilitation Counseling Professional Roles Cr. 3
Roles of rehabilitation professional as counselor, consultant, case manager and advocate. Case analysis, service applications and recording and reporting from perspectives of various professional rehabilitation counseling roles. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.

RCI 7410 Foundations of Rehabilitation Counseling Cr. 3
Comprehensive introduction to rehabilitation counseling as a human service field. Values philosophy, history and legislation of rehabilitation; community inclusion and support; and professional issues. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.

RCI 7420 Medical Aspects of Disability Cr. 3
Types of disabilities, treatment strategies, impact of disability on physical and vocational functioning of persons with disabilities. Offered Winter.
Prerequisite: RCI 7410 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

RCI 7430 Counseling Practicum Cr. 4
Supervised experience in individual and group interactions, assessment and appraisal, diagnosis and treatment planning, other professional counseling activities; use of variety of counseling and rehabilitation resources. Students attend seminars for supervision and discussion of professional issues in interdisciplinary context (minimum of 100 clock hours). Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $25
Equivalent: AED 7380, CED 7150

RCI 7450 Employment for Persons with Disabilities Cr. 3
Design and implementation of effective methods to help persons with disabilities obtain and maintain employment. Marketing and job placement skills, job-seeking skills training, job clubs, job adaptation, supported and transitional employment, employer assistance and training, and follow-along services. Offered Winter.
Prerequisite: RCI 7100 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

RCI 7460 Counseling Internship Cr. 1-6
Supervised field experience providing counseling or rehabilitation services at a cooperating agency or institution under supervision of approved professional. Students complete a minimum of 600 clock hours. Offered Yearly.
Prerequisite: RCI 7430 with a minimum grade of B
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: AED 7890, CED 7020
Repeatable for 6 Credits

RCI 7470 Family and Community Support for Inclusion Cr. 3
Services that facilitate full participation of persons with disabilities in the life of their families and communities. Persons with disabilities in context of: families, family dynamics, cultural diversity, family structure, family support. Community support, supported independence, independent living centers, therapeutic recreation and related programs. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.

RCI 7480 Psychosocial Aspects of Disability Cr. 3
Psychological, social and cultural aspects of adjustment and adaptation to a variety of disabling conditions. Theoretical and practical issues relating to various types of physical, neurological, sensory, psychiatric disabilities. Offered Winter.
Prerequisite: RCI 7410 with a minimum grade of C and RCI 7420 with a minimum grade of C and CED 6080 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

RCI 7510 Special Topics in Rehabilitation Counseling Cr. 1-3
Emerging and contemporary issues of selected disabilities and intervention techniques aimed at improving the lives of people with disabilities. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 9 Credits

RCI 7515 Rehabilitation Treatment Planning and Intervention for People with Psychiatric Disabilities Cr. 2
Knowledge and skills in treatment planning and intervention with people who have psychiatric disabilities. Rehabilitation assessment, rehabilitation plan development, employment strategies, and life care planning. Offered Fall.
Prerequisites: RCI 7410 with a minimum grade of B- and RCI 7510 with a minimum grade of B-
Restriction(s): Enrollment is limited to Graduate level students.

RDT - RADIOLOGIC TECHNOLOGY

RDT 3090 Directed Study Cr. 1
Independent study of medical terminology and related vocabulary. Instructor-directed online course. Offered Fall.
Prerequisite: RDT 3100 with a minimum grade of C
Restriction(s): Enrollment limited to students in the BS in Radiologic Technology program.

RDT 3100 Introduction to Radiologic Technology Cr. 2
Introduction to radiology and hospital procedures. Role of radiographer as a member of the health care team. Offered Spring/Summer.
Restriction(s): Enrollment limited to students in the BS in Radiologic Technology program.

RDT 3200 Radiation Biology and Advanced Protection Cr. 3
Radiation protection procedures; radiation interaction with matter and dosage problem solving. Offered Spring/Summer.
Restriction(s): Enrollment limited to students in the BS in Radiologic Technology program.

RDT 3300 Radiographic Procedures I Cr. 3
Instruction and practical experience in procedures of positioning for the skeletal system with correlation to related anatomy in medical images. Offered Fall.
Prerequisite: RDT 3100 with a minimum grade of C
Restriction(s): Enrollment limited to students in the BS in Radiologic Technology program.

RDT 3400 Clinical Education I Cr. 6
Clinical course. Student participates in supervised practice of radiographic procedures, studied in conjunction with didactic coursework. Offered Spring/Summer.
Restriction(s): Enrollment limited to students in the BS in Radiologic Technology program.
Course Material Fees: $55

RDT 3500 Patient Care Cr. 3
Practical application of patient handling: patient assessment, implication of medications and contrast media. BLS certification. Offered Winter.
Prerequisite: RDT 3090 with a minimum grade of C and RDT 3100 with a minimum grade of C and RDT 6500 with a minimum grade of C
Restriction(s): Enrollment limited to students in the BS in Radiologic Technology program.
Course Material Fees: $35

RDT 3600 Clinical Education II Cr. 6
Application of didactic theory in practice on patients/clients under supervision of qualified technologists in a clinical setting. Offered Fall.
Prerequisite: RDT 3400 with a minimum grade of C
Restriction(s): Enrollment limited to students in the BS in Radiologic Technology program.
Course Material Fees: $50

RDT 3700 Radiographic Procedures II Cr. 3
Continuation of RDT 3300. Additional advanced procedures, including skull, mammography, and gastrointestinal studies. Offered Winter.
Prerequisite: RDT 3300 with a minimum grade of C
Restriction(s): Enrollment limited to students in the BS in Radiologic Technology program.
Course Material Fees: $35

RDT 3800 Cross-Sectional Anatomy Cr. 3
Presentation of anatomical structures in sectional format, as encountered in computed tomography or magnetic resonance imaging. Offered Spring/Summer.
Prerequisite: RDT 3300 with a minimum grade of C and RDT 3700 with a minimum grade of C
Restriction(s): Enrollment limited to students in the BS in Radiologic Technology program.

RDT 3900 Clinical Education III Cr. 6
Minimally supervised clinical experience. Skills practice to proficiency level; additional complex skills. Offered Winter.
Prerequisite: RDT 3600 with a minimum grade of C
Restriction(s): Enrollment limited to students in the BS in Radiologic Technology program.

RDT 4100 Radiographic Quality/Exposure Cr. 3
Practical application of technical exposure factor formulation; imaging systems and subsequent effects of equipment manipulation of images. Offered Fall.
Prerequisite: RDT 3200 with a minimum grade of C and RDT 3300 with a minimum grade of C and RDT 3700 with a minimum grade of C
Restriction(s): Enrollment limited to students in the BS in Radiologic Technology program.
Course Material Fees: $35

RDT 4200 Radiation Physics and Circuitry Cr. 3
Radiation physics; tubes and circuits of radiographic equipment. Offered Fall.
Prerequisite: RDT 3200 with a minimum grade of C and RDT 3500 with a minimum grade of C
Restriction(s): Enrollment limited to students in the BS in Radiologic Technology program.

RDT 4300 Clinical Education IV Cr. 6
Continuation of RDT 3900. Offered Spring/Summer.
Prerequisite: RDT 3900 with a minimum grade of C
Restriction(s): Enrollment limited to students in the BS in Radiologic Technology program.
Course Material Fees: $30

RDT 4400 Radiographic Pathology Cr. 3
Disease process and how they manifest in imaging modalities. Clarification of modality preference. Offered Winter.
Prerequisite: RDT 3500 with a minimum grade of C and RDT 4500 with a minimum grade of C
Restriction(s): Enrollment limited to students in the BS in Radiologic Technology program.

RDT 4500 Clinical Education V Cr. 6
Supervised clinical experience in performing radiographic procedures on patients in clinical setting. Evaluation of outcomes; application of knowledge at a progressive level. Offered Fall.
Prerequisite: RDT 4300 with a minimum grade of C
Restriction(s): Enrollment limited to students in the BS in Radiologic Technology program.
Course Material Fees: $75

RDT 4600 Radiology Seminar Cr. 1
Introduction to imaging modalities beyond the scope and practice of the general radiographer; emphasis on interventional procedures. Offered Winter.
Prerequisite: RDT 3500 with a minimum grade of C and RDT 3700 with a minimum grade of C and RDT 4100 with a minimum grade of C
Restriction(s): Enrollment limited to students in the BS in Radiologic Technology program.

RDT 4700 Clinical Education VI Cr. 6
Continuation of RDT 4500. Offered Winter.
Prerequisite: RDT 4500 with a minimum grade of C
Restriction(s): Enrollment limited to students in the BS in Radiologic Technology program.

RDT 4800 Independent Study Cr. 1
Satisfies General Education Requirement: Writing Intensive Competency
Independent research in radiology. Offered Fall.
Prerequisite: RDT 3090 with a minimum grade of C and RDT 3500 with a minimum grade of C and RDT 3700 with a minimum grade of C
Restriction(s): Enrollment limited to students in the BS in Radiologic Technology program.

RDT 4900 Jurisprudence for Radiographers Cr. 3
Ethical and legal case studies; research and discussion correlated to philosophical theory and accepted best law practice for general situations in health care and those specific to radiography. Offered Winter.
Prerequisite: PHI 2320 with a minimum grade of C and RDT 3500 with a minimum grade of C
Restriction(s): Enrollment limited to students in the BS in Radiologic Technology program.

RDT 6500 Pharmacology Cr. 2
Effects of drug distribution, absorption and excretion as pertaining to physical therapy. Major drug categories, OTC, and nutritional supplements, pertinent to acute and chronic responses to physical therapy; indications, mechanisms, effects. Offered Fall.
Prerequisite: RDT 3100 with a minimum grade of C
Restriction(s): Enrollment limited to students in the BS in Radiologic Technology program.

RLL - READING, LANGUAGE AND LITERATURE EDUCATION

RLL 6121 Teaching Reading in the Content Areas: Grades 6-12 Cr. 3
Teaching reading across all content areas with particular attention to readers with special needs. Offered Every Term.
Restriction(s): Enrollment limited to students in the College of Education.

RLL 6400 Practicum in Developmental Reading Cr. 1-4
Identifying and solving field problems in developmental reading, management of reading instruction, the importance of reading in the content areas. Offered Every Term.
Restriction(s): Enrollment limited to students in the College of Education.
Repeatable for 4 Credits

RLL 6700 Second Language Literacy Development: K-12 Cr. 3
Examination of theories, organizations and instructional strategies involved in second language literacy development, and their applications in the classroom. Offered Fall, Spring/Summer.
Prerequisite: LED 6520 with a minimum grade of C-

RLL 6801 Assessment and Differentiated Instruction for Diverse Learners: Pre-K-8 Cr. 3
Assessment of literacy competencies of diverse learners; use of assessments to plan and implement differentiated instruction in grades PreK-8. Implementation with students in field component; and evaluation. Offered Every Term.
Restriction(s): Enrollment limited to students in the College of Education.

RLL 6802 Assessment and Differentiated Instruction for Diverse Learners: 6-12 Cr. 3
Assessment of literacy competencies of diverse learners; use of assessments to plan and implement differentiated instruction in grades 6-12. Implementation with students in field component; and evaluation. Offered Every Term.
Restriction(s): Enrollment limited to students in the College of Education.

RLL 7100 Emergent Literacy Cr. 3
Variety of theories, organization and instructional strategies involved in the beginning stages of literacy; their application to the classroom. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.

RLL 7200 Comprehension Cr. 3
Models of comprehension, factors that affect comprehension, instructional methods, reading/writing connection, evaluation (pre-K to adult). Offered Yearly.
Prerequisites: RLL 7100 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

RLL 7300 Literacy Across the Curriculum Cr. 3
Theoretical bases for teaching literacy across the curriculum; strategies for organization and instruction. Action research as a tool for learning. Offered Yearly.
Prerequisites: RLL 7100 with a minimum grade of C and RLL 7200 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

RLL 7350 Organization and Supervision of Literacy Programs Cr. 3
Factors necessary to organize and supervise literacy programs. Topics include: curriculum development for a variety of needs, evaluation of programs, resources and material; staff development; communicating with parents, other professionals, and the public. Offered Spring/Summer.
Prerequisites: RLL 7100 with a minimum grade of C and RLL 7200 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

RLL 7400 Practicum and Seminar in Evaluation and Instruction Cr. 3
Evaluation and literacy competencies of learners, methods of instruction, use of portfolios and reports to document progress; applied during supervised tutoring. Offered Yearly.
Prerequisites: RLL 7100 with a minimum grade of C and RLL 7200 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 6 Credits

RLL 7500 Theoretical Foundations for Literacy Cr. 3
Implications of theories from sociology, psychology, linguistics, semiotics and related fields, for the development of literacy. Offered Yearly.
Prerequisites: RLL 7100 with a minimum grade of C and RLL 7200 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

RLL 7600 Current Developments in Literacy Education Cr. 1-6
Topics of current interest; review of literature, discussion of educational implications. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 6 Credits

RLL 7720 Survey and Analysis of Current Literature for Children: PS-Grade 3 Cr. 3
Intensive examination of books appropriate for preprimary and primary school children. Analysis of the literary and extra-literary factors that affect the young child's experiences with fiction, non-fiction, and poetry. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: INF 6510

RLL 7740 Survey and Analysis of Literature for Older Children: Grades 4-8 Cr. 3
Intensive examination of books appropriate for children in grades four through eight. Analysis of literary and extra-literary factors affecting the older child's experiences with fiction, non-fiction, and poetry. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: INF 6520

RLL 7750 Survey and Analysis of Current Children's Literature: Preschool - Grade 8 Cr. 3
Intensive examination of books for children in preschool through eighth grade. Analysis of literary and extra-literary factors affecting the child's experiences with fiction, non-fiction and poetry. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: RLL 7720, RLL 7740

RLL 7780 Storytelling Cr. 3
Selection of appropriate literature and materials for story performance; guided practice in selection and presentation of literature for oral communication by reading aloud, mediated storytelling and storytelling. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.

RLL 7800 Writing Development and Instruction Cr. 3
Key theories on how students learn to write; key stages of the writing process, authoring cycle, and special challenges students encounter with different genres. Strategies for developing various aspects of the writing process and creation of different genres. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students.

RLL 7820 Responding to Texts: Theory and Practice Cr. 3
Roles of reader, text, and teacher in connection with reader-response theories such as transmission, transaction and transformation theories; practical strategies for literary engagement and response. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students.

RLL 8600 Internship in Research and Teaching Cr. 3-6
Experiences in college-level teaching and/or research through internships teaching college courses and/or collaborative research with experienced faculty. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 6 Credits

RLL 8700 Research Applications in Literacy Cr. 3
Research designs, analysis strategies, relevant statistics useful in conducting a wide variety of contemporary literacy-related research. Offered Yearly.
Prerequisite: EER 7630 with a minimum grade of C and EER 7640 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

RLL 8800 Seminar in Theory and Research in Literacy I: Foundational Theory and Research Cr. 3
Foundational theories and research in literacy and related fields such as psychology, sociology, literary criticism, linguistics, and semiotics that have shaped literacy theory, research, and instruction. Includes behavioral, cognitive/metacognitive, critical and constructivist theories and research. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.

RLL 8810 Seminar in Theory and Research in Literacy II: Diversity, Contexts, and Communities Cr. 3
Examines issues of language, literacy, and culture in reading and literacy learning from preschool through adolescence with particular focus on diverse learners and linguistic diversity. Topics include emergent literacy, adolescence and youth culture, oral and written language, and the role of language in the home and community. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.

RLL 8830 Current Issues and Research in Literacy Cr. 3
Research and theories in literacy and related fields; their potential to impact instruction, society, and further research. Students read, discuss, and critique current research and consider the implications for theory, literacy instruction, and further research. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.

RLL 8840 Practicum in Supervision and Administration of Programs in Literacy Development Cr. 3
Understanding the supervision and administration of literacy programs through investigation, experience supervising a literacy center in conjunction with faculty, and working with master's-level students who are tutors in that program. Offered Every Term.
Prerequisite: RLL 7400 with a minimum grade of C or RDG 7400 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

ROC - RADIATION ONCOLOGY

ROC 5010 Introduction to Radiological Physics Cr. 4
Nature of radiation and its interaction with matter. Theory of dosimetry and instrumentation for detection of radiation. Principles of radiation protection. Applications of radiation in radiology and related problems. Offered for graduate credit only. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.

ROC 5990 Directed Study in Medical Sciences Cr. 1-4
Introduction to modern methodology of cancer research. Students of the Division of Cancer Biology of the Department of Radiation Oncology conduct research projects under direction of research scientists. Areas of research include: molecular biology, enzyme purification, tumor biology, cellular biochemistry. Offered for graduate credit only. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.

ROC 6710 Physics in Medicine Cr. 3
Applications of physics in medicine including radioactivity; interaction of radiation in matter; x-ray, CT, MRI, ultrasound, and PET imaging; nuclear medicine; radiation oncology. Offered Winter.

ROC 7000 Imaging Physics I Cr. 4
Basic theory of medical imaging. Introduction to magnetic resonance imaging and spectroscopy, ultrasound; diagnostic radiology: radiography, fluoroscopy, CT, digital radiography, and mammography. Offered Fall.
Prerequisite: ROC 5010 (may be taken concurrently) with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

ROC 7010 Imaging Physics II: Nuclear Medicine Cr. 2
Physics of nuclear medicine, with emphasis on imaging. Offered Winter.
Prerequisite: ROC 7000 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

ROC 7020 Physics of Radiation Therapy Cr. 3
Lecture and demonstration in physics of radiation therapy. Offered Winter.
Prerequisite: ROC 5010 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

ROC 7040 Radiation Dosimetry Cr. 2
Lecture and demonstration on principles of radiation dosimetry. Dosimetry of photons, electrons, neutrons and dose from radioactive materials. Offered Winter.
Prerequisite: ROC 5010 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

ROC 7060 Applied Radiobiology in Radiological Science Cr. 2
Fractionation, oxygen enhancement ratio, characterization of neutron beams and heavy particles for radiation therapy, radiosensitivity within cell division. Offered Fall.
Prerequisite: PHY 2180 with a minimum grade of C-
Restriction(s): Enrollment is limited to Graduate level students.

ROC 7070 Radiation Safety Cr. 2
Lectures on radiation safety procedures and practices; governmental regulations on radiation safety. Offered Spring/Summer.
Prerequisite: ROC 5010 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

ROC 7080 Radiotherapy Physics Laboratory Cr. 2
Practical laboratory exercises in ionometric and solid-state dosimetry techniques, quality assurance procedures for selected radiation therapy and diagnostic radiological equipment. Offered Spring/Summer.
Prerequisite: ROC 7020 with a minimum grade of C and ROC 7040 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

ROC 7110 Treatment Planning Cr. 2
Practical aspects of radiotherapy treatment planning. Lectures and exercises in patient data acquisition and computerized treatment planning for a variety of sites with both teletherapy and brachytherapy. Offered Fall.
Prerequisite: ROC 7020 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

ROC 7120 Radionuclide Therapy Cr. 2
Development of radionuclide technology and its medical use from its discovery to the latest developments. Offered Fall.
Prerequisite: ROC 5010 with a minimum grade of C and ROC 7020 with a minimum grade of C and ROC 7040 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

ROC 7130 Nuclear Medicine Physics Laboratory Cr. 2
Laboratory experiments calibration, Q.A., etc., on isotope generators, isotope calibrators, counting systems, spectrometers, cameras, spect and PET systems, Counting statistics, spectrum analysis. Offered Spring/Summer.
Prerequisite: ROC 7010 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

ROC 7150 Radiation Oncology Anatomy and Physiology Cr. 2
Independent study course covering radiological (CT/MRI) anatomy and basic anatomy and medical terminology pertinent to radiation oncology. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.

ROC 7160 Advanced Topics in Medical Physics Cr. 2
Advanced imaging principles for students pursuing careers in medical physics or any other profession related to diagnostic imaging. Offered Winter.
Prerequisite: ROC 5010 with a minimum grade of C and ROC 7000 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

ROC 7170 Professional Aspects of Medical Physics Cr. 2
Provide an overview of the professional aspects of clinical radiation oncology physics. Involvement in practical aspects of clinical radiation oncology physics including analysis of quality assurance and practice quality improvement initiatives, review of regulatory and external certification requirements, etc. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.

ROC 7890 Seminar Cr. 1
Presentations by graduate students, staff, visitors with emphasis on topics relevant to radiation biophysics and radiological health. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.

ROC 7990 Directed Study Cr. 1-5
Independent study in the uses of new technologies in clinical radiology. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 5 Credits

ROC 7999 Essay Direction Cr. 3
Preparation of an in-depth paper on a subject in radiological physics. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major, minor, or concentration in Medical Physics or Radiological Physics.

ROC 8990 Special Problems in Radiation Biophysics Cr. 1-7
Independent study in advanced topics to be selected by the student in consultation with instructor. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Medical Physics or Radiological Physics.
Repeatable for 7 Credits

ROC 9990 Pre-Doctoral Candidacy Research Cr. 1-8
Research in preparation for doctoral dissertation. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 12 Credits

ROC 9991 Doctoral Candidate Status I: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.

ROC 9992 Doctoral Candidate Status II: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: ROC 9991
Restriction(s): Enrollment is limited to Graduate level students.

ROC 9993 Doctoral Candidate Status III: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: ROC 9992
Restriction(s): Enrollment is limited to Graduate level students.

ROC 9994 Doctoral Candidate Status IV: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: ROC 9993
Restriction(s): Enrollment is limited to Graduate level students.

ROC 9995 Candidate Maintenance Status: Doctoral Dissertation Research and Direction Cr. 0
Offered Every Term.
Prerequisite: ROC 9994
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $370.26

ROC 9996 Radiation Oncology Physics Clinical Rotation I Cr. 7.5
Prereq: DMP candidate in department and written consent of the program director. Required in Fall term of Year 3 of Professional Doctorate program. Offered for S and U grades only. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.

ROC 9997 Radiation Oncology Physics Clinical Rotation II Cr. 7.5
Prereq: Satisfactory completion of ROC 9996 and written consent of the program director. Required in Winter term of Year 3 of Professional Doctorate program. Offered for S and U grades only. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.

ROC 9998 Radiation Oncology Physics Clinical Rotation III Cr. 7.5
Prereq: Satisfactory completion of ROC 9997 and written consent of the program director. Required in Fall term of Year 4 of Professional Doctorate program. Offered for S and U grades only. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.

ROC 9999 Radiation Oncology Physics Clinical Rotation IV Cr. 7.5
Prereq: Satisfactory completion of ROC 9998 and written consent of the program director. Required in Winter term of Year 4 of Professional Doctorate program. Offered for S and U grades only. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.

RT - RADIATION THERAPY TECHNOLOGY

RT 3000 Concepts of Clinical Care Cr. 3
Procedures and ethics related to the care and examination of the radiation oncology patient. Topics include: basic pharmacology, drug administration, pain management, treatment side effects and their management. Offered Fall.
Restriction(s): Enrollment limited to students in the BS in Radiation Therapy Tech program.
Course Material Fees: $15

RT 3010 Introductory Radiation Physics Cr. 3
Basic introduction of radiation physics including the x-ray machine, physical principles and circuitry; principles of mathematics. Offered Fall.
Restriction(s): Enrollment limited to students in the BS in Radiation Therapy Tech program.

RT 3020 Clinical Radiation Physics Cr. 3
Principles of radiation exposure; radiation producing and measuring devices; clinical application of radiation physics. Offered Winter.
Prerequisite: RT 3010 with a minimum grade of C
Restriction(s): Enrollment limited to students in the BS in Radiation Therapy Tech program.

RT 3110 Clinical Aspects of Radiation Therapy Cr. 3
Basic concepts in oncology and radiation therapy technology. Topics include: cancer statistics, neoplasia, and principles of treatment and dosage. Offered Fall.
Restriction(s): Enrollment limited to students in the BS in Radiation Therapy Tech program.

RT 3140 Topographic Anatomy and Medical Imaging Cr. 3
Procedures for imaging human structure and their relevance to radiation therapy; topographic and cross sectional anatomy, identification of anatomic structures as demonstrated through various imaging modalities and human anatomy lab sessions; fundamentals of radiographic exposure techniques and film processing. Offered Winter.
Restriction(s): Enrollment limited to students in the BS in Radiation Therapy Tech program.
Course Material Fees: $10

RT 3200 Therapeutic Interactions in Oncology Care Cr. 2
Issues related to professional interaction with oncology patients. Impact of cancer diagnosis on patient and family; subsequent role of radiation therapist. Approaches to effective communication. Offered Spring/Summer.
Restriction(s): Enrollment limited to students in the BS in Radiation Therapy Tech program.
Course Material Fees: $5

RT 3310 Clinical Practicum I Cr. 4
Introduction to clinical radiation therapy. Closely supervised patient-related activities. Emphasis on development of interpersonal communication skills in the clinical setting; medical terminology. Offered Spring/Summer.
Restriction(s): Enrollment limited to students in the BS in Radiation Therapy Tech program.
Course Material Fees: $59

RT 3320 Clinical Practicum II Cr. 4
Closely supervised practice in the delivery of prescribed doses of radiation utilizing common radiation equipment. Observation and performance of clinical care procedures; Development of communication skills in patient/therapist relationships. Correlation of medical imaging techniques to diagnostic workup and treatment planning. Completion of clinical competency requirements. Offered Winter.
Prerequisite: RT 3310 with a minimum grade of C
Restriction(s): Enrollment limited to students in the BS in Radiation Therapy Tech program.

RT 3330 Clinical Practicum III Cr. 4
Expanded supervised practice in the delivery of radiation therapy treatments. Submission of essay on radiation oncology topic. Completion of clinical competency requirements. Offered Spring/Summer.
Prerequisite: RT 3320 with a minimum grade of C
Restriction(s): Enrollment limited to students in the BS in Radiation Therapy Tech program.
Course Material Fees: $65

RT 4110 Clinical Radiation Oncology Cr. 4
General presentation of malignant conditions, their etiology and methods of treatment; specific radiation treatment methodology including technical parameters of field size and direction, dosage, blocking, and patient positioning. Offered Fall.
Restriction(s): Enrollment limited to students in the BS in Radiation Therapy Tech program.
Course Material Fees: $15

RT 4120 Basic Clinical Dosimetry Cr. 4
Basic concepts of clinical dosimetry and treatment planning; various external beam techniques, depth dose data, and summation of isodose curves. Offered Winter.
Prerequisite: RT 4110 with a minimum grade of C
Restriction(s): Enrollment limited to students in the BS in Radiation Therapy Tech program.
Course Material Fees: $10

RT 4140 Oncologic Pathology Cr. 2
Basic principles of neoplasia, including types of growth, causative factors, biological behavior, and significance of staging procedures. Pathology of radiation injury. Offered Fall.
Restriction(s): Enrollment limited to students in the BS in Radiation Therapy Tech program.
Course Material Fees: $10

RT 4150 Radiobiology of Radiation Oncology Cr. 2
Biological effects of ionizing radiation on living tissue. Cell and tissue radiosensitivity; radiation syndromes and related effects. Basic radiobiological principles of radiation oncology and radiation protection. Offered Winter.
Restriction(s): Enrollment limited to students in the BS in Radiation Therapy Tech program.

RT 4220 Radionuclide Physics Cr. 3
Natural radioactivity; isotopes and nuclear structure; techniques of radiation measurement. The clinical use of radionuclides. Radiation safety. Offered Fall.
Prerequisite: RT 3020 with a minimum grade of C
Restriction(s): Enrollment limited to students in the BS in Radiation Therapy Tech program.

RT 4240 Radiation Therapy Technology Seminar Cr. 3
Issues relevant to the practice and profession of radiation therapy technology explored through group discussion and case studies. Topics include: psychosocial, cultural, economic, physical, and educational factors which affect the patient; professional, administrative, legal, and bioethical issues which influence professional practice. Offered Winter.
Restriction(s): Enrollment limited to students in the BS in Radiation Therapy Tech program.
Course Material Fees: $15

RT 4300 Quality Assurance Cr. 2
Principles and application of a comprehensive quality assurance program, addressing general clinical and physics factors. Contents include: tasks to be performed, with their frequency and acceptable limits; model implementation program; and legal implications. Lecture and laboratory settings. Offered Spring/Summer.
Restriction(s): Enrollment limited to students in the BS in Radiation Therapy Tech program.
Course Material Fees: $10

RT 4350 Clinical Practicum IV Cr. 4
Continued supervised practice in a wide spectrum of clinical activities. Submission of a critical bibliography from current literature of radiation therapy, cancer management and related areas. Completion of clinical competency requirements. Offered Fall.
Prerequisite: RT 3330 with a minimum grade of C
Restriction(s): Enrollment limited to students in the BS in Radiation Therapy Tech program.
Course Material Fees: $59

RT 4360 Clinical Practicum V Cr. 4
Satisfies General Education Requirement: Writing Intensive Competency
Continued clinical practice under limited supervision. Submission of essay on radiation oncology topic. Completion of clinical competency requirements. Satisfies the University General Education Writing Intensive Course in the Major requirement. Offered Winter.
Prerequisite: RT 4350 with a minimum grade of C
Restriction(s): Enrollment limited to students in the BS in Radiation Therapy Tech program.

RT 4370 Clinical Practicum VI Cr. 4
Continued clinical practice under minimal supervision. Practice of procedures related to the development of various treatment plans and methods of treatment planning. Submission of report on quality assurance activities. Completion of clinical competency requirements. Offered Spring/Summer.
Prerequisite: RT 4360 with a minimum grade of C
Restriction(s): Enrollment limited to students in the BS in Radiation Therapy Tech program.
Course Material Fees: $20

RT 5650 Pathophysiology for Health Sciences Cr. 3
Fundamental knowledge of the nature of disease for the health sciences student; physiologic and morphologic changes accompanying disease processes; mechanisms of repair and recovery. Offered Winter.
Equivalent: OT 5650, PT 5650

RT 5990 Directed Study in Radiation Therapy Technology Cr. 1-5
Production of a paper, written assignment, or presentation to develop critical thinking, research, writing and presentation skills. Focus on career options within the field. Offered Every Term.
Restriction(s): Enrollment limited to students in the BS in Radiation Therapy Tech program.
Repeatable for 5 Credits

RUS - RUSSIAN

RUS 1010 Elementary Russian I Cr. 4
Development of practical skills in speaking, understanding, reading, and writing contemporary Russian. Offered Fall.
Course Material Fees: $5

RUS 1020 Elementary Russian II Cr. 4
Continuing development of the four skills in contemporary Russian. Offered Winter.
Prerequisites: RUS 1010 with a minimum grade of D-
Course Material Fees: $5

RUS 2010 Intermediate Russian I Cr. 4
Satisfies General Education Requirement: Foreign Culture, Global Learning Inquiry
Continuation of RUS 1020 with emphasis on developing speaking and reading skills. Offered Fall.
Prerequisites: RUS 1020 with a minimum grade of D-
Course Material Fees: $5

RUS 2020 Intermediate Russian II Cr. 4
Objectives begun in RUS 2010; at more advanced level. Offered Winter.
Prerequisites: RUS 2010 with a minimum grade of D-
Course Material Fees: $5

RUS 2030 Russian Conversation Cr. 1
Development of Russian oral language skills through intensive speaking and listening practice. Offered Fall, Winter.
Prerequisites: RUS 2020 with a minimum grade of D-

RUS 2710 Introduction to Russian Culture Cr. 3
Satisfies General Education Requirement: Civ and Societies (CLAS only), Foreign Culture, Global Learning Inquiry
Survey of Russian culture from the tenth century to the present day. Introduction to Russian history, art, architecture, literature, music, religious practices, intellectual thought, and cuisine, as well as various aspects of daily life from the Tsarist period to the present day. Offered Every Term.

RUS 2991 Understanding the Fairy Tale Cr. 3
Satisfies General Education Requirement: Cultural Inquiry, Philosophy Letters
Introduction to the interdisciplinary context of major Russian fairy tales, exploring the different types of traditional Russian fairy tales, as outlined by Vladimir Propp, as well as the evolution of these fairy tales, emphasizing their transformation from oral and literary form into film, animation, opera, ballet, art, sculpture, and music. The course will also examine contemporary literary texts based on fairy tale motifs. All lectures and reading in English. Offered Fall, Winter.

RUS 3010 Intermediate-Advanced Russian I Cr. 4
Further development of skills; taught in two tracks at fifth and seventh semester levels. Offered Fall.
Prerequisites: RUS 2020 with a minimum grade of D-
Repeatable for 8 Credits

RUS 3020 Intermediate-Advanced Russian II Cr. 4
Further development of skills; taught in two tracks at sixth and eight semester levels. Offered Winter.
Prerequisites: RUS 2020 with a minimum grade of D-
Repeatable for 8 Credits

RUS 3050 Russian Practicum Cr. 3
Internship with local Russian businesses and non-profit organizations to enable students to use Russian in real-life settings and learn about Russian culture first-hand. Offered Fall, Winter.
Prerequisites: RUS 3010 with a minimum grade of D-
Repeatable for 9 Credits

RUS 3070 Russian Listening Comprehension II Cr. 2
Online course. Students view Russian videos and listen to audiotexts of fables and poetry, do exercises designed to develop their listening comprehension and expand their Russian vocabulary, and take quizzes and exams online. Offered Fall, Winter.
Prerequisites: RUS 3010 with a minimum grade of D-
Restriction(s): Enrollment is limited to Undergraduate level students.

RUS 3250 Reading Russian Cr. 3
Survey of Russian Grammar and basic vocabulary to develop reading skill. Offered Yearly.
Restriction(s): Enrollment is limited to Undergraduate level students.

RUS 3410 New Soil, Old Roots: The Immigrant Experience Cr. 3
Satisfies General Education Requirement: Civ and Societies (CLAS only), Diversity Equity Incl Inquiry, Foreign Culture, Global Learning Inquiry
Armenian, German, Jewish, Polish, Russian and Ukrainian immigration to the United States, its effects on the cultures (language, literature, religion, politics, music, art and theatre) of these ethnic groups and its influence upon American culture. Offered Fall.
Equivalent: ARM 3410, GER 3410, POL 3410, SLA 3410

RUS 3600 Nineteenth Century Russian Literature Cr. 3
Satisfies General Education Requirement: Cultural Inquiry, Philosophy Letters
Major Russian writers, including Pushkin, Dostoevsky, Tolstoy, Chekhov, and others. How literature reflects and grows out of history; how culture is affected by writers and poets. Taught in English; readings in English. Offered Fall.

RUS 3650 Russian Literature Since 1900 Cr. 3
Satisfies General Education Requirement: Cultural Inquiry, Philosophy Letters
Twentieth century Russian literature as it explores the universal questions of love, death, rebirth, spirituality, and despair against a background of war, revolution, political oppression and economic collapse. Close analysis of major works of prose and poetry as well as literary currents such as Russian modernism, Socialist Realism, and post-modernism. Taught in English; readings in English. Offered Every Other Year.

RUS 3700 The Changing Face of Europe Cr. 1-2
Special topics relating to Central, Eastern and Western Europe. Offered Intermittently.
Equivalent: GER 3700, POL 3700, SLA 3700

RUS 3810 Topics in Slavic Studies Cr. 3
Special topics relating to Slavic languages, literatures and cultures, such as drama, the Gulag, and contemporary culture. Offered Yearly.
Equivalent: POL 3800, SLA 3800
Repeatable for 9 Credits

RUS 3990 Directed Study Cr. 1-3
For students desiring additional work in the language at the intermediate level; for programs of work not included in scheduled courses, either in language or literature. Offered Every Term.
Prerequisites: RUS 2010 with a minimum grade of D-
Repeatable for 6 Credits

RUS 5600 Nineteenth Century Russian Literature Cr. 3-4
For advanced undergraduate and graduate students interested in Russian literature. Major nineteenth-century authors: Pushkin, Dostoevsky, Tolstoy, Chekhov, and others. Close readings of works introduce traditions and thematic concerns within historical and socio-cultural contexts; relevant intellectual, religious, political factors. Taught in English; readings in English. Offered Fall.

RUS 5650 Russian Literature Since 1900 Cr. 3-4
For advanced undergraduate and graduate students interested in Russian literature. Twentieth century Russian literature as it explores the universal questions of love, death, rebirth, spirituality, and despair against a background of war, revolution, political oppression and economic collapse. Close analysis of major works of prose and poetry as well as literary currents such as Russian modernism, Socialist Realism, and post-modernism. Taught in English; readings in English. Offered Every Other Year.

RUS 5990 Directed Study Cr. 1-3
For students who wish credit for program of work not included in regularly scheduled courses, either in language or in literature. Knowledge of Russian required. Offered Every Term.
Repeatable for 12 Credits

RUS 5993 Writing Intensive Course in Russian Cr. 0
Satisfies General Education Requirement: Writing Intensive Competency
Disciplinary writing assignments under the direction of a faculty member. Must be selected in conjunction with a course designated as a corequisite; see section listing in Schedule of Classes for corequisites available each term. Satisfies the University General Education Writing Intensive Course in the Major requirement. Required for all majors. Offered Fall, Winter.
Prerequisites: AFS 2390 with a minimum grade of C or ENG 2390 with a minimum grade of C or ENG 3010 with a minimum grade of C or ENG 3020 with a minimum grade of C or ENG 3050 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students.

RUS 5999 Internship in Russian Studies Cr. 3
Internship in a public or private organization related to Russian studies. Offered for undergraduate credit only. Offered Every Term.
Prerequisite: RUS 3010 with a minimum grade of C- or RUS 3020 with a minimum grade of C-
Restriction(s): Enrollment is limited to students with a major, minor, or concentration in Slavic Studies or Slavic Studies Honors.

SAM - SPORT ADMINISTATION AND MANAGEMENT

SAM 2020 History of Sport Cr. 3
Satisfies General Education Requirement: Social Inquiry
Examines the historical evolution of sport, from ancient to modern times in the United States and throughout the world. Offered Winter.

SAM 2100 Foundations of Sport Management Cr. 3
By combining theory and practical application, this course provides an overview of various facets of sports management and administration, including issues related to the recreational, amateur, interscholastic, collegiate, professional and lifestyle sports industries. Offered Fall.

SAM 3010 Ethics in Sport Cr. 3
Examines principles of ethics, and their application to sport, physical education, and sport. Students will acquire an awareness of ethical conduct and cultivate an effective, deliberative process for dealing with ethical issues in sport. Offered Winter.

SAM 3020 Sociology of Sport Cr. 3
Satisfies General Education Requirement: Diversity Equity Incl Inquiry
Examines the ways in which sports are entangled in social, cultural, political, and economic forces. Students will systematically investigate the complex connections among sports, society, and cultures. Offered Fall, Winter.

SAM 4020 Sport Governance Cr. 3
Covers governance structures and policy issues in sport and how policy development and strategic planning activities affect sport organizations, both amateur and professional. Offered Fall.
Prerequisite: SAM 2100

SAM 4030 Sport Finance Cr. 3
Introduces students to the concepts of financial management and sales as applied to the sports industry. Offered Winter.
Prerequisite: SAM 2100

SAM 4040 Sport Communication Cr. 3
General principles and strategies of sport communication are covered, including public relations, media relations, and publicity in a variety of settings. Effective use of technology in sport communication will be particularly emphasized. Offered Winter.
Prerequisite: SAM 2100

SAM 5000 Professional Practicum Cr. 3
Students will be introduced to various areas within the sports industry through guided fieldwork and service learning experiences. Students will analyze career placement opportunities, the internship process, and associate requirements while preparing professional materials for use in the sports industry. Offered Fall.
Prerequisite: SAM 2100

SAM 5510 Principles of Coaching Cr. 3
Specific topics on the coach and the athlete in areas of administration, motor learning, physical growth, motor skill acquisition, philosophy, psychology and sociology. Offered Spring/Summer.

SAM 5750 Internship in Sports Management Cr. 1-6
Professional experience in public or private institutions relevant to student's field of industry specialization. Offered Fall, Winter.
Prerequisite: SAM 5000
Course Material Fees: $15
Repeatable for 6 Credits

SAM 6300 Interscholastic Athletic Directing Cr. 3
Michigan and national interscholastic athletic directing organizations; issues and skills to direct athletic programs in middle and secondary education. Philosophy, personnel, financial and general athletic policies and guidelines. Offered Yearly.
Prerequisites: SAM 2100 with a minimum grade of C

SAM 6310 Collegiate Athletic Administration Cr. 3
Provides an overview of intercollegiate athletic administration. Focuses on the history of college athletics, NCAA compliance rules and regulations, operations, finances, strategic planning, and critical issues and future trends that impact college sport. Offered Yearly.
Prerequisites: SAM 2100 with a minimum grade of C

SAM 6320 Youth Sports and Recreation Cr. 3
Explores issues related to organized and competitive sport for youth, with an emphasis on biological, psychological, and sociological perspectives. Emphasis is placed on the impact of sport managers and leaders in the delivery of youth sport programs. Offered Spring/Summer.

SAM 6410 Introduction to Sports Administration Cr. 3
Current categories of competitive sports and athletics identified and analyzed to determine potential administrative positions in their structures and the qualifications necessary for each position. Offered Fall, Winter.

SAM 6530 Professional Sport Administration Cr. 3
Introduction to the business strategies of a professional sports team, including an in depth look at breaking into the industry, the importance and value of community affairs, corporate sponsorship, business public relations and player relations. Offered Winter.
Prerequisites: SAM 2100 with a minimum grade of C

SAM 6531 Sports Event Management Cr. 3
Comprehensive study of the planning, maintenance, operations, financial considerations, customer engagement, and personnel management of sporting events and the facilities that host the events. Offered Spring/Summer.
Prerequisites: SAM 2100 with a minimum grade of C

SAM 6560 Media Design and Communication Cr. 3
Examines the impact sports and the media have on each other and explores the use of technology in promoting, marketing, and managing health, PE, recreation, and sports programs. Offered Winter.
Prerequisites: SAM 2100 with a minimum grade of C

SAM 6570 Sports Marketing Cr. 3
Concepts and principles of marketing as applied to sports. Topics include: structure of sports industry, sports markets and products, market research, and sports sponsorships. Offered Fall.
Prerequisites: SAM 2100 with a minimum grade of C

SAM 6640 Legal Issues in Health, Physical Education and Recreation Cr. 3
Identification and analysis of legal issues in the health, physical education, and recreation profession. Review of relevant litigation patterns. Offered Yearly.

SAM 6660 Risk Management in Physical Education and Sports Cr. 3
Fundamentals of safety and liability and the risks involved in managing activity-related programs. Development of knowledge and skills to recognize potential litigation in management, supervision and administration. Offered Fall.

SAM 6661 Equity and Access in Sport Cr. 3
Historical and contemporary sport and physical activity experience in context of race, socioeconomic class, gender, age, disability, and culture. Offered for graduate credit only. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.

SAM 6750 Field Work in Sports Administration and Management Cr. 1-4
Professional experience in public or private institutions relevant to student's specialization. Supervision by professional supervisor and university faculty. Can be taken at any time during student's program. Offered Fall, Winter.
Repeatable for 8 Credits

SAM 7540 Concepts of Management in Health, Physical Education and Recreation Cr. 3
Responsibilities and concerns of administrators of health, physical education and recreation programs. Basic administrative procedures, policy-making and evaluation; establishment of program goals; alternative management styles; leadership principles. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students.

SAM 7581 Sport Finance Cr. 3
Understanding financial management for planning, administering, and evaluating financial performance of sport-related entities. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students.

SAM 8750 Internship in Sports Administration Cr. 1-8
Professional experience in public or private institutions relevant to student's field of specialization. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $15
Equivalent: KHS 8750
Repeatable for 8 Credits

SCE - SCIENCE EDUCATION

SCE 5010 Biological Sciences for Elementary and Middle School Teachers Cr. 3
Significant biological principles, generalizations and understandings with relation to their use with children. Appropriate learning activities; experiments, field trips, text and reference materials, audio-visual resources, evaluation. Offered Every Term.
Course Material Fees: $10

SCE 5020 Physical Sciences for Elementary and Middle School Teachers Cr. 3
Significant principles, generalizations and understandings in the physical sciences with relation to their use with children. Appropriate learning activities including experiments, field trips, reference materials, audio-visual resources. Offered Every Term.
Course Material Fees: $10

SCE 5030 Earth/Space Science for Elementary and Middle School Teachers Cr. 3
Principles, generalizations and understandings related to teaching earth/space science to children. Learning activities, field trips, technology, and evaluation. Offered Every Term.
Course Material Fees: $10

SCE 5060 Methods and Materials of Instruction in Secondary School Science I Cr. 3
Role of science in the secondary curriculum. Problems and techniques of teaching science in the secondary schools; objectives, planning laboratory experiments, demonstrations, directed study, student projects, text and reference material, audio-visual resources, evaluation. Offered Fall.
Restriction(s): Enrollment limited to students in the College of Education.
Course Material Fees: $10

SCE 5070 Methods and Materials of Instruction in Secondary School Science II Cr. 3
Problems of selecting and organizing teaching-learning materials in secondary school science. Development of illustrative instructional units. Resources for professional growth of science teachers; professional literature and organizations. Offered Winter.
Restriction(s): Enrollment limited to students in the College of Education.

SCE 6010 Safety in the Science Classroom Cr. 2
Principles of Laboratory safety in all K-12 science classrooms, including legal responsibilities related to the use, storage and disposal of chemicals and biological specimens as well as legal and ethical use of living organisms in the classroom. Offered Winter.
Restriction(s): Enrollment limited to students in the College of Education.

SCE 6030 Advanced Studies in Teaching Science in the Junior High and Middle School Cr. 3
Innovations and improvements in middle school and junior high school science teaching. Exploration of appropriate areas of study, development and selection of learning activities and materials; laboratory experiences in selected areas. Offered Every Other Year.
Restriction(s): Enrollment limited to students in the College of Education.

SCE 6040 Advanced Studies in Teaching Science in the High School Cr. 3
Emphasis on methods of teaching biology and the physical sciences in the high school. Recent curriculum studies, research, and current problems. Laboratory experiments, equipment, textual and reference material, audio-visual resources, and evaluation procedures. Offered Every Other Year.
Course Material Fees: $10

SCE 6080 Teaching Environmental Studies Cr. 3
Ecological concepts and environmental problems, possible solutions, and their implications for curriculum development and classroom teaching in K-12 educational settings. Science as a process is stressed throughout classroom activities, field trips, and assignments. Offered Every Other Year.
Course Material Fees: $10

SCE 7010 Special Topics in Science Education Cr. 1-3
Current theories and issues related to science education: nature of science, equity, global education, interdisciplinary approaches, alternative forms of assessment and technology integration. Topics to be announced in Schedule of Classes. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 6 Credits

SED - SPECIAL EDUCATION

SED 5000 History, Philosophy, and Ethics of Teaching Students with Disabilities Cr. 2
Historical developments leading to contemporary special and inclusive education. Philosophy of inclusive education. Ethical standards for special educators. This is a prerequisite for all SED courses. Offered Fall, Winter.

SED 5010 Inclusive Teaching Cr. 2
Philosophy and practice of inclusive teaching; legal and ethical responsibilities of educators; practical, empirically supported, and classroom tested approaches; collaborations of service providers; and home-school-society relationships. Offered Yearly.
Prerequisites: SED 5000 with a minimum grade of C

SED 5075 Consultation and Collaboration for Inclusive Teaching Cr. 2
Knowledge and skills of consultation, collaboration, and co-teaching to support students in a variety of educational settings, particularly inclusive contexts. Offered Intermittently.
Prerequisites: SED 5000 with a minimum grade of C

SED 5080 Supportive Environments, Engaged Learning Cr. 2
Relationships between environment, student engagement, and learning. Approaches for creating supportive, inclusive learning environments and increasing student engagement in learning. Offered Winter.
Prerequisites: SED 5000 with a minimum grade of C

SED 5090 Transitions for Students with Disabilities Cr. 2
Strategies for supporting students with disabilities and special needs who are in transition between schools and from school to adult life in community settings. Offered Fall, Winter.
Prerequisites: SED 5000 with a minimum grade of C
Course Material Fees: $4

SED 5110 Introduction to Teaching Students with Moderate/Significant Support Needs Cr. 3
Medical terminology and interventions for students labeled cognitively impaired. Social model framework for understanding and supporting students with moderate to significant support needs (e.g., MARSE, cognitive impairment). Offered Fall.
Prerequisites: SED 5000 with a minimum grade of C and SED 5010 with a minimum grade of C and SED 5075 with a minimum grade of C and SED 5080 with a minimum grade of C and SED 5090 with a minimum grade of C

SED 5115 Observation and Assessment of Students with Moderate/ Significant Support Needs Cr. 3
Using observation and assessment to monitor learning and plan instruction for learners with moderate to significant support needs (e.g., MARSE label cognitive impairment) in variety of educational contexts. Offered Yearly.
Prerequisites: SED 5000 with a minimum grade of C and SED 5010 with a minimum grade of C and SED 5075 with a minimum grade of C and SED 5080 with a minimum grade of C and SED 5090 with a minimum grade of C
Course Material Fees: $8

SED 5121 Language Development and Instruction for Students with Moderate/Significant Support Needs Cr. 2
Language-communication development and instruction for students with moderate to significant educational support needs (e.g., MARSE label cognitive impairment). Emphasis on utilizing augmentative and alternative communication systems. Offered Fall.
Prerequisites: SED 5000 with a minimum grade of C and SED 5010 with a minimum grade of C and SED 5075 with a minimum grade of C and SED 5080 with a minimum grade of C and SED 5090 with a minimum grade of C

SED 5125 Teaching Students with Significant/Multiple Support Needs Cr. 3
Curriculum and instructional for students with significant/multiple impairments in a variety of educational contexts (e.g., students with the label SXI). Offered Yearly.
Prerequisites: SED 5000 with a minimum grade of C and SED 5010 with a minimum grade of C and SED 5075 with a minimum grade of C and SED 5080 with a minimum grade of C and SED 5090 with a minimum grade of C
Course Material Fees: $5

SED 5130 Teaching Students with Moderate Support Needs Cr. 3
Curriculum and instruction for students with moderate support needs (e.g., MARSE label cognitive impairment) in a variety of educational contexts. Offered Winter.
Prerequisites: SED 5000 with a minimum grade of C and SED 5010 with a minimum grade of C and SED 5075 with a minimum grade of C and SED 5080 with a minimum grade of C and SED 5090 with a minimum grade of C and SED 5110 with a minimum grade of C
Course Material Fees: $3.5

SED 5260 Effective Instructional Strategies for Exceptional Learners Cr. 3
Effective instructional strategies for students with special needs; multi-level and differentiated instruction, scaffolding, multi-modal instruction. Offered Fall.
Prerequisite: SED 5030
Restriction(s): Enrollment limited to students in the College of Education.

SED 6010 Seminar in Special Education Teaching Cr. 2
Selected topics, problem solving, and reflection on experiences as a student teacher facilitating the learning of children with a mental and/or related disability. Offered Yearly.
Restriction(s): Enrollment limited to students in the College of Education.

SED 6021 Introduction to Teaching Students with Autism Spectrum Disorder Cr. 3
Historical and current research on autism spectrum disorder (ASD), with professional and personal perspective. Focus on supports, services, and quality of life outcomes. Offered Intermittently.
Prerequisites: SED 5000 with a minimum grade of C and SED 5010 with a minimum grade of C and SED 5075 with a minimum grade of C and SED 5080 with a minimum grade of C and SED 5090 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

SED 6030 Teaching Students with Cognitive, Behavior, and Communication Differences Cr. 3
Teaching students with cognitive and behavioral differences. Emphasis on strategies for supporting inclusive education. Offered Intermittently.
Prerequisites: SED 5000 with a minimum grade of C and SED 5010 with a minimum grade of C and SED 5075 with a minimum grade of C and SED 5080 with a minimum grade of C and SED 5090 with a minimum grade of C and SED 6021 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

SED 6040 Introduction to Early Childhood Special Education Cr. 3
History, philosophy, legislation, and ""best practice"" of early intervention and educational programs for young children, birth to eight years old, who have developmental delays or disabilities. Offered Fall.

SED 6050 Teaching Students with Communication Differences Cr. 3
Teaching students with communication differences (i.e., students with autism spectrum disorder). Designing relationship based communication support, particularly in inclusive settings. Offered Intermittently.
Prerequisites: SED 5000 with a minimum grade of C and SED 5010 with a minimum grade of C and SED 5075 with a minimum grade of C and SED 5080 with a minimum grade of C and SED 5090 with a minimum grade of C and SED 6021 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $4

SED 6060 Teaching Students with Movement and Sensory Differences Cr. 2
Movement and sensory differences in students with autism. Strategies for increasing student engagement in learning, social interaction, and inclusive educational contexts. Emphasis on supports for inclusion and supports provided by related service providers. Offered Yearly.
Prerequisites: SED 5000 with a minimum grade of C and SED 5010 with a minimum grade of C and SED 5075 with a minimum grade of C and SED 5080 with a minimum grade of C and SED 5090 with a minimum grade of C and SED 6021 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

SED 7030 Dynamic Assessment in Early Childhood Special Education Cr. 3
Introduction to a variety of assessment tools and instruments and their administration for young children who have developmental delays or disabilities. Focus on linking assessment and intervention ""best practices."" Offered Spring/Summer.
Restriction(s): Enrollment is limited to Graduate level students.

SED 7700 Trends in Inclusion for Students with Moderate/Significant Support Needs Cr. 3
Advanced seminar in Special Education. Perspectives and applications of Disability Studies in Education for teaching students who have moderate/significant support needs. Offered Yearly.
Prerequisites: SED 5000 with a minimum grade of C and SED 5010 with a minimum grade of C and SED 5075 with a minimum grade of C and SED 5080 with a minimum grade of C and SED 5090 with a minimum grade of C and SED 5110 with a minimum grade of C and SED 5125 with a minimum grade of C and SED 5130 with a minimum grade of C and TED 7060 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

SED 7750 Trends in Inclusion for Students with Autism Spectrum Disorders Cr. 3
Advanced seminar in Special Education. Examines perspectives and applications of Disability Studies in Education for teaching students who have autism spectrum disorders. Offered Yearly.
Prerequisites: SED 5000 with a minimum grade of C and SED 5010 with a minimum grade of C and SED 5075 with a minimum grade of C and SED 5080 with a minimum grade of C and SED 5090 with a minimum grade of C and SED 6021 with a minimum grade of C and SED 6030 with a minimum grade of C and SED 6050 with a minimum grade of C and SED 6060 with a minimum grade of C and TED 7060 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

SED 7760 Teaching Students with Learning Disabilities: K-12 Cr. 3
Methods, materials, and procedures for education of children with learning diversity as they relate to concerns in communication disorders and sciences. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students.

SED 7770 Assessment and Evaluation of Students with Autism Spectrum Disorders Cr. 3
Methods, materials and procedures for assessment of students with autism spectrum disorders. Offered Yearly.
Prerequisites: SED 5000 with a minimum grade of C and SED 5010 with a minimum grade of C and SED 5075 with a minimum grade of C and SED 5080 with a minimum grade of C and SED 5090 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $4

SED 7790 Language Basis of Learning Disabilities Cr. 3
Normal language acquisition and development, language pathology including neurological process involved in speech reception and production, assessment of language disorders as they relate to children and adolescents with learning disabilities. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.

SED 7800 Practicum in Educating Students with Disabilities Cr. 1-24
Teaching students with disabilities with emphasis on inclusive teaching. Focus on area of certification/endorsement. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 24 Credits

SED 7820 Emotional and Behavioral Problems in Children and Adolescents Cr. 3
Diagnosis, instruction, treatment, and support of children and youth classified as having emotional disturbance and behavior disorders. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students.

SED 7830 Promoting Pro-Social Behavior and Resilience Cr. 3
School- and classroom-based approaches for building resilience, promoting pro-social behavior, preventing emotional difficulties and violence. Emphasis on community-building in the classroom, peer support, understanding needs, and providing social-emotional learning opportunities. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students.

SED 7840 Advanced Internship in Special Education Cr. 3-6
Individualized internship developed in collaboration with faculty to focus on university teaching, research, leadership and other advanced professional experiences. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 6 Credits

SED 8700 Advanced Seminar in Special Education Cr. 3
Students collaborate with faculty to explore key issues of policy and practice related to education of students with disabilities and special needs. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in a Doctor of Education or Education Specialist Cert degrees.

SEM - SPORT AND ENTERTAINMENT MANAGEMENT

SEM 5100 Introduction to Sport & Entertainment Management Cr. 3
Provides an overview of the sport & entertainment industry, and examines issues encountered by sport and entertainment managers with special emphasis on the use of business principles to identify, attract and retain consumers. Offered Every Term.
Restriction(s): Enrollment is limited to Undergraduate level students.
Equivalent: MGT 5100

SEM 7100 Sport & Entertainment Management Cr. 3
Provides an overview of the sport & entertainment industry. Examines issues encountered by sport and entertainment managers. Emphasis on use of business principles to identify, attract, and retain consumers. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.

SEM 7110 Sport & Entertainment Marketing Communications Cr. 3
Explores the role of sport and entertainment marketing in the attraction and retention of customers. Emphasizes branding and the linkages across marketing communications. Topical areas include advertising, sponsorship, public relations, direct marketing, social media, and sales promotion. Offered Yearly.
Prerequisite: SEM 7100 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

SEM 7120 Event Planning and Management Cr. 3
Explores the nature and role of events. History, significance, impacts and role of sporting events, festivals, the arts and cultural entertainment, and business events. Cultivate business skills involved in operations, marketing, sponsorship and fundraising for events. Offered Yearly.
Prerequisite: SEM 7100 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

SEM 7130 Managerial Finance in Sport & Entertainment Cr. 3
Application of financial skills and principles in sport and entertainment. Budgeting, revenue generation, profits and loss, and taxation. Offered Every Term.
Prerequisite: SEM 7100 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

SEM 7140 Sports & Entertainment Economics Cr. 3
Economic theory and principles applied to the business of sport and entertainment. Demand, costs and profit maximization, labor issues, antitrust, and tax policy examined. Strategic decision-making on current issues. Offered Yearly.
Prerequisite: SEM 7100 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

SLA - SLAVIC

SLA 2310 Short Fiction from Central Europe and Russia Cr. 3
Satisfies General Education Requirement: Cultural Inquiry, Philosophy Letters
Explores how writers use short fictional forms, such as parable, short story, fairy tale, and satire, to express important themes in the Central European experience, including violence and cruelty, freedom and imprisonment, utopian visions, and urban life. Offered Fall.
Equivalent: GER 2310

SLA 3410 New Soil, Old Roots: The Immigrant Experience Cr. 3
Satisfies General Education Requirement: Civ and Societies (CLAS only), Diversity Equity Incl Inquiry, Foreign Culture, Global Learning Inquiry
Armenian, German, Jewish, Polish, Russian and Ukrainian immigration to the United States, its effects on the cultures (language, literature, religion, politics, music, art and theatre) of these ethnic groups and its influence upon American culture. Offered Fall.
Equivalent: ARM 3410, GER 3410, POL 3410, RUS 3410

SLA 3700 The Changing Face of Europe Cr. 1-2
Special topics relating to Central, Eastern and Western Europe. Offered Intermittently.
Equivalent: GER 3700, POL 3700, RUS 3700

SLA 3710 Russian and East European Film Cr. 3-4
Satisfies General Education Requirement: Cultural Inquiry, Civ and Societies (CLAS only), Visual Performing Arts
Major Russian, Polish, Czech, Ukrainian and Armenian films viewed and discussed from political, historical, cultural and aesthetic points of view. Offered Yearly.

SLA 3750 Polish and Yugoslavian Cinema Cr. 3
Satisfies General Education Requirement: Cultural Inquiry, Visual Performing Arts
Two national cinemas introduced through milestone films and lesser-known cinematic gems produced before and after the fall of communism. Offered Every Other Winter.
Equivalent: POL 3750

SLA 3800 Topics in Slavic Studies Cr. 3
Special topics relating to Slavic languages, literatures and cultures, such as drama, the Gulag, and contemporary culture. Offered Yearly.
Equivalent: POL 3800, RUS 3810
Repeatable for 9 Credits

SLA 7010 Introduction to Literary Theory Cr. 3
Graduate-level introduction to key critical perspectives, theories, problems, and questions that have informed the discussions and analyses of twentieth- and twenty-first-century literary and cultural scholars. Specific theoretical paradigms used to determine the task of textual interpretation, locate the limits of each approach, trace the emergence of subsequent theoretical paradigms, and think about how such theories might or might not be relevant in the study of specific texts. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: CLA 7010, FRE 7010, GER 7010, ITA 7010, NE 7010, SPA 7010

SLA 7400 Cultural Studies and Criticism Cr. 3-4
Important concepts and major figures in Slavic contributions to literary and cultural studies. Readings and class in English. Open to students from diverse disciplines. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students.

SLP - SPEECH AND LANGUAGE PATHOLOGY

SLP 3990 Directed Study Cr. 1-3
Undergraduate study in areas not covered in scheduled curriculum, including library and field work. Offered Fall, Winter.
Repeatable for 4 Credits

SLP 4998 Honors Seminar Cr. 3
Bibliographic and research experiences; review of recent literature; research project. Offered Yearly.

SLP 5080 Phonetics Cr. 3
Multisensory study of sounds in the English language, emphasizing acoustic, physiologic, kinesiologic approaches. Offered Fall, Winter.
Course Material Fees: $12
Equivalent: LIN 5080

SLP 5090 Anatomy and Physiology of the Speech Mechanism Cr. 3
General science of normal speech; anatomy, physiology and mechanics of respiration, phonation, resonation, articulation. Offered Fall, Spring/Summer.

SLP 5120 Speech Science Cr. 3
Speech production, acoustics of sound, perception of the speech signal. Offered Fall, Winter.
Prerequisites: May be taken concurrently: SLP 5080 with a minimum grade of C and May be taken concurrently: SLP 5090 with a minimum grade of C

SLP 5300 Introduction to Speech-Language Pathology Cr. 3
Speech-language pathology in clinical and educational settings; classification of communication disorders and related management strategies. Offered Every Term.

SLP 5310 Clinical Methods in Communication Disorders Cr. 3
Procedures and materials for clinical diagnosis of articulatory, language, rhythm, and voice deficits of organic and non-organic causation. Offered Fall, Winter.
Prerequisites: May be taken concurrently: SLP 5080 with a minimum grade of C and May be taken concurrently: SLP 5090 with a minimum grade of C and SLP 5300 with a minimum grade of C

SLP 5320 Normal Language Acquisition and Usage Cr. 3
Language development in children and the associated areas of emotional and motor development; language stimulation techniques and programs. Offered Every Term.
Course Material Fees: $10
Equivalent: LIN 5360

SLP 5360 Clinical Practice in Speech-Language Pathology Cr. 3
Satisfies General Education Requirement: Writing Intensive Competency
Supervised experience in application of methods of diagnosis and treatment of clinical cases. Offered Every Term.
Prerequisites: SLP 5310 with a minimum grade of B and SLP 6460 with a minimum grade of B and SLP 6480 with a minimum grade of B
Course Material Fees: $60
Repeatable for 6 Credits

SLP 6360 Advanced Clinical Practice in Speech-Language Pathology Cr. 3
Supervised experience in application of methods of diagnosis and treatment of clinical cases. Offered for graduate credit only. Offered Every Term.
Prerequisite: SLP 5360 with a minimum grade of B
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $60
Repeatable for 12 Credits

SLP 6460 Language and Phonological Disorders Cr. 3
Introduction to the clinical management of articulation and language disorders. Offered Fall, Winter.
Prerequisites: May be taken concurrently: SLP 5080 with a minimum grade of C and SLP 5300 with a minimum grade of C and SLP 5320 with a minimum grade of C

SLP 6480 Organic and Fluency Disorders Cr. 3
Introduction to the clinical management of cleft palate, voice, and stuttering disorders. Offered Fall, Winter.
Prerequisites: May be taken concurrently: SLP 5080 with a minimum grade of C and SLP 5300 with a minimum grade of C and SLP 5320 with a minimum grade of C

SLP 6640 Language Development and Disorders: Infants and Preschool Children Cr. 3
Theory, assessment and intervention with young children and their families. Emphasizes clinical problem solving, diagnosis, prevention and management in the context of cognitive, linguistic and neurological development. Offered for graduate credit only. Offered Fall.
Prerequisite: SLP 5300 with a minimum grade of C+ and SLP 5320 with a minimum grade of C+
Restriction(s): Enrollment is limited to Graduate level students.

SLP 7000 Research Methods in Communication Disorders Cr. 1
Introduction to methods of research design and methods of analysis (quantitative and qualitative) in speech and hearing sciences and disorders. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.

SLP 7010 Acoustics of Speech Cr. 3
Acoustic consequences of phonetically-relevant articulatory movements. Offered Intermittently.
Prerequisite: SLP 5080 with a minimum grade of C+ and SLP 5090 with a minimum grade of C+
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: LIN 7010

SLP 7100 Research Methods: Evidenced- Based Practice Cr. 1
Using evidence-based practice in communication disorders and on methods for conducting original research. Offered Winter.
Prerequisite: SLP 7000 with a minimum grade of C+
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Communication Sci & Disorders or Speech-Language Pathology.

SLP 7155 Special Topics in Communication Disorders Cr. 1-4
Lecture and discussion of special topics in communication disorders across the lifespan. Offered Fall.
Prerequisite: SLP 6360 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 4 Credits

SLP 7320 Professional Issues in Speech-Language Pathology Cr. 1
Practice issues, including ethics, scope of practice, multicultural concerns, professional conduct, reimbursement, and professional resources. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students.

SLP 7360 Internship in Speech Pathology Cr. 6
Advanced professional experience in clinical speech language pathology. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 12 Credits

SLP 7380 Clinical Process in Speech-Language Pathology Cr. 3
Development of clinical skills and knowledge in diagnostic and treatment processes. Introduction to professional issues, counseling and ethical practices in speech-language pathology practice. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $10
Repeatable for 9 Credits

SLP 7520 Counseling in Speech-Language Pathology Cr. 1
Basic counseling principles and techniques applied to patients and their family members during evaluation and treatment of communication and swallowing disorders. Offered Spring/Summer.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major, minor, or concentration in Special Educ-Speech Pathology or Speech-Language Pathology.

SLP 7590 Dysphagia Cr. 3
Assessment and management of neurologic and mechanical swallowing disorders in children and adults. Offered Spring/Summer.
Prerequisite: SLP 5090 with a minimum grade of C+
Restriction(s): Enrollment is limited to Graduate level students.

SLP 7600 Phonological Disorders Cr. 3
The etiology, diagnosis and advanced treatment regimens of phonological disorders in children and adults. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students.

SLP 7610 Stuttering Cr. 3
The etiology, diagnosis and treatment of stuttering disorders in children and adults. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students.

SLP 7620 Voice Disorders Cr. 2-3
The etiology, diagnosis and treatment of voice disorders in children and adults. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.

SLP 7621 Craniofacial Syndromes Cr. 2
Theoretical and applied issues in resonance disorders that result from oral clefting and other craniofacial syndromes. Offered Spring/Summer.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Speech-Language Pathology; enrollment limited to students in the MA in Liberal Arts & Sciences program.

SLP 7630 Neuroscience of Communication Disorders Cr. 3
Neuroscience, neurophysiology, neuropsychology, neuroimaging, normal aging processes and neurodevelopment in speech-language pathology. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.

SLP 7640 Language Disorders in the School-Age Population Cr. 3
Assessment and intervention in assessment, diagnosis, treatment, and management of language and speech disorders in school-age populations. Emphasis on service delivery in context of curriculum and role of speech-language pathologist in school-based practice. Offered Fall.
Prerequisite: SLP 6640 with a minimum grade of C+
Restriction(s): Enrollment is limited to Graduate level students.

SLP 7660 Neuromuscular Speech Disorders Cr. 3
Theory, assessment and intervention in neurologic speech disorders in children and adults (dysarthria, acquired apraxia of speech). Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.

SLP 7680 Acquired Linguistic and Cognitive Disorders in Adults Cr. 4
Theory, assessment, and management/treatment of adult patients with aphasia,traumatic brain injury, right-hemisphere brain damage, and dementia. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students.

SLP 7700 Advanced Research Methods in Communication Disorders Cr. 1
Development of advanced research writing skills, for presentation of research in written and oral format. Development of research presentation skills; presentation of research project in departmental forum. Offered Winter.
Prerequisite: SLP 7000 with a minimum grade of C+
Restriction(s): Enrollment is limited to Graduate level students.

SLP 7990 Directed Study Cr. 1-9
Graduate study in areas not covered in scheduled curriculum, including library and field work. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 9 Credits

SLP 7991 Directed Study: PhD Cr. 1-9
Directed research for major, and pilot work for dissertation. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Speech-Language Pathology; enrollment limited to students in a Doctor of Philosophy degree.
Repeatable for 9 Credits

SLP 7999 Master's Essay Direction Cr. 1-3
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students with a class of Candidate Masters.

SLP 8390 Seminar in Speech-Language Pathology Cr. 3
Topics to be announced in Schedule of Classes. No topic may be repeated for credit. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 18 Credits

SLP 8999 Master's Thesis Research and Direction Cr. 1-8
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students with a class of Candidate Masters.
Repeatable for 8 Credits

SLP 9990 Pre-Doctoral Candidacy Research Cr. 1-8
Research in preparation for doctoral dissertation. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 12 Credits

SLP 9991 Doctoral Candidate Status I: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.

SLP 9992 Doctoral Candidate Status II: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: SLP 9991 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

SLP 9993 Doctoral Candidate Status III: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: SLP 9992 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

SLP 9994 Doctoral Candidate Status IV: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: SLP 9993 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

SLP 9995 Candidate Maintenance Status: Doctoral Dissertation Research and Direction Cr. 0
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $370.26
Repeatable for 0 Credits

SOC - SOCIOLOGY

SOC 1010 Understanding Human Society Cr. 3
Satisfies General Education Requirement: Social Inquiry, Social Sciences
Analysis of basic sociological concepts and principles to give the student an understanding of the perspective that sociology brings to the study of human society. Offered Every Term.

SOC 1020 Social Problems Cr. 3
Satisfies General Education Requirement: Diversity Equity Incl Inquiry, Social Inquiry, Social Sciences
Consideration of major contemporary social problems which reveal structural strains, value conflicts, deviations and changes in society. Analysis of socio-cultural factors creating problems and of possible solutions. Offered Every Term.

SOC 2050 The Study of Non-Violence Cr. 3
Satisfies General Education Requirement: Diversity Equity Incl Inquiry
Intellectual and social roots of non-violence and the practice of non-violence in different people's life styles. Historical and political forces and movements related to non-violence. (Some sections linked to Peace and Justice Learning Community.) Offered Every Term.
Equivalent: HIS 2530, PCS 2050, PS 2550

SOC 2100 Topics in Sociology Cr. 3
Specialized and topical studies of sociological themes. Topics to be announced in Schedule of Classes. Offered Every Term.
Repeatable for 9 Credits

SOC 2200 Sociology as a Vocation I Cr. 2
Introduces students to the sociological literacy framework, the curriculum in the sociology major, the potential career paths that sociology majors can pursue, and sociology as an academic discipline and a vocation rather than just a major. Offered Every Term.
Restriction(s): Enrollment is limited to students with a major, minor, or concentration in Sociology or Sociology Honors.

SOC 2201 Race Relations in Metro Detroit Cr. 3
This course introduces how race relations are intertwined with the historical trajectory and social processes Metro Detroit. It provides historical and contemporary data about racial inequality and segregation in Metro Detroit. It also considers the role of various social institutions (e.g., educational system, religious institutions, criminal justice system) in resisting and perpetuating racial inequalities in Metro Detroit. Offered Yearly.

SOC 2202 Gendered Worlds Cr. 3
Introduces the ideas that have been central to the sociological study of gender and society. Describes historical and contemporary gender inequalities, the role of various social institutions in perpetuating gender inequality, the social construction of gender, and the way gender roles vary both historically and across cultures. Offered Yearly.

SOC 2203 Social Psychology Cr. 3
Satisfies General Education Requirement: Social Inquiry, Social Sciences
Introduction to the sociological study of social psychology. This course describes the sociological aspect of the self and explores how individuals experience the self in relation to society. Offered Every Term.

SOC 2204 Outsiders and Deviants Cr. 3
Provides an overview of the sociological student social deviance, emphasizing crime and other deviant behaviors and conditions Offered Every Term.
Equivalent: CRJ 2204

SOC 2205 Sociology of the Environment Cr. 3
Provides an introduction to the sociology of the environment, the study of the interrelationships of human social systems and the environment, with a primary focus on the social aspects of environmental concerns. Offered Yearly.

SOC 2206 Political Sociology Cr. 3
Examines the sociology of politics and explores sociological analysis of political processes in the United States. Offered Every Other Year.
Equivalent: PS 2206

SOC 2207 Sociology of Development Cr. 3
This course covers the major sociological approaches to issues of development and social change, with a focus on the problems and prospects facing the Third World. Offered Yearly.

SOC 2208 Sociology of Sport Cr. 3
Satisfies General Education Requirement: Social Inquiry
Examines the relationship between sport and society, with an emphasis on the relationship of sport to social variables, social institutions, and social problems. Offered Yearly.

SOC 2209 Sociology of Religion Cr. 3
Satisfies General Education Requirement: Social Inquiry
Explores current sociological debates as they pertain to the complex and multi-faceted relationship between religion and other social institutions. Offered Yearly.

SOC 2210 Sociology of Health and Medicine Cr. 3
Satisfies General Education Requirement: Social Inquiry
Designed to introduce the field of medical sociology. The course investigates the impacts of social and institutional variables on health behaviors and outcomes. It also considers the cultural, organizational, and economic functioning of various healthcare institutions. Offered Yearly.

SOC 2245 Blacks and Sport in the United States Cr. 3
The intersection between race and sport in the United States, examined to better understand the role of sports in our socialization and cultural construction. Offered Every Other Year.
Restriction(s): Enrollment is limited to Undergraduate level students.
Equivalent: AFS 2245

SOC 2300 Social Inequality Cr. 3
Satisfies General Education Requirement: Diversity Equity Incl Inquiry, Social Inquiry, Social Sciences
Structure and process in society, institutions, communities, and organizations. Scientific analysis of organization, conflict, and change in the economy, government, religion, education, and family. Offered Yearly.

SOC 2500 Introduction to Urban Studies Cr. 4
Satisfies General Education Requirement: Social Inquiry, Social Sciences
Urban phenomena both past and present, including the quality and nature of urban life; major concerns of urban areas; perspectives and techniques of various urban-related disciplines. Offered Every Term.
Equivalent: GPH 2000, HIS 2000, PS 2000, US 2000

SOC 2510 People on the Move Cr. 3
Satisfies General Education Requirement: Global Learning Inquiry, Social Inquiry, Social Sciences
Birth, death and migration investigated with respect to their social causes and consequences for society and human behavior. International migration will be a major focus of this course, since populations are always shifting in global society. Population growth and development will also be covered. Offered Every Other Year.

SOC 2600 Race and Racism in America Cr. 3
Satisfies General Education Requirement: Diversity Equity Incl Inquiry
Examination of the nature and practice of racism in American society from its historical foundations to its contemporary institutional forms. Offered Every Other Year.
Equivalent: AFS 2600

SOC 3050 Basic Sociological Theory Cr. 3
Introduction to sociological theory from a general conceptual framework. Major concepts, theoretical positions and recent trends in theoretical sociology will be considered. Offered Yearly.
Prerequisite: SOC 2200 with a minimum grade of P

SOC 3101 Special Topics in Sociology Cr. 1
Covers introductory topics in Sociology. Offered Intermittently.
Repeatable for 3 Credits

SOC 3200 Methods of Social Research Cr. 3
An elementary research methods course that covers the process of doing social research, including research design, data collection techniques, processing and analysis of data, as well as the interpretation of data. Offered Yearly.

SOC 3220 Introduction to Social Statistics Cr. 3
Introduction to major concepts in social statistics including level measurement, distributions, probability and bivariate hypothesis testing. Discussion of the role that statistics play in discussions and popular understandings of social issues. Offered Yearly.

SOC 3400 Exploring Marriage and Other Intimate Relationships Cr. 3
Students examine, from a sociological perspective, issues concerning intimate relationships. Major emphasis on description and analysis of changes in monogamous marriage. Non-traditional marital forms also examined. Focus upon the intimate relationships as they relate to personal, functional concerns of the student. Offered Every Other Year.

SOC 3440 American Medicine in the Twentieth Century Cr. 3
Major historical benchmarks in the making of the medical system in the U.S., including developments in medicine and medical knowledge, as well as social and political factors that influenced their reception and implementation. Offered Winter.
Restriction(s): Enrollment is limited to Undergraduate level students.
Equivalent: HIS 3440

SOC 3710 Learning About Your Community Through Research Cr. 4
Blend of participatory, in-service, and classroom work to enhance undergraduate research skills by linking social science theories and concepts to hands-on community-based learning opportunities. Offered Fall.
Restriction(s): Enrollment is limited to Undergraduate level students.
Equivalent: LAS 3710

SOC 3840 Corrections Cr. 4
Description and analysis of legal, social and political issues affecting contemporary correctional theory and practice. Topics include: history of corrections, function and social structure of correctional institutions, institutional alternatives including diversion, probation and parole. Field trips to institutions and community correctional settings normally required. Offered Every Term.
Restriction(s): Enrollment is limited to Undergraduate level students.
Equivalent: CRJ 3350

SOC 3900 LGBT Health Cr. 3
Centers on LGBT voices and takes an intersectional socioecological approach to exploring social determinants of health, and a range of health outcomes and challenges in LGBT communities; and the implications for public health research, policy, and practice to improve LGBT health. Introduces students to key conceptual frameworks for understanding LGBT health across the lifespan and promoting health equity. Offered Yearly.
Prerequisite: PH 2100 with a minimum grade of C or PH 3100 with a minimum grade of C or GSW 2500 with a minimum grade of C or GSW 2600 with a minimum grade of C or SOC 1020 with a minimum grade of C or SOC 2202 with a minimum grade of C or SOC 2300 with a minimum grade of C
Equivalent: PH 3900

SOC 3990 Directed Study Cr. 1-3
For students who show evidence of ability and interest, and desire to do advanced reading. Part-time and student instructors are ineligible to supervise directed study. Offered Every Term.
Repeatable for 6 Credits

SOC 3991 Directed Study: Salford - WSU Exchange Cr. 3-9
Directed study at University of Salford, England. Offered Fall, Winter.

SOC 4010 Sociology as a Vocation II Cr. 1
Provides an opportunity change for students to think retrospectively about their experiences in sociology and to think prospectively about their next steps in their careers. Students will systematically document the courses they took, projects they participated in, and assignments they completed in the past to build a personal academic portfolio. Offered Every Term.
Prerequisite: SOC 2200 with a minimum grade of P

SOC 4201 Seminar in Race and Ethnicity Cr. 3
Introduces contemporary, empirical, and sociological research within the sociology of race and ethnicity. Offered Yearly.

SOC 4202 Seminar in the Sociology of Gender Cr. 3
Provides an overview of the current state of knowledge in the sociology of gender with an emphasis on recent empirical research. Offered Yearly.

SOC 4203 Seminar in Global Inequality and Development Cr. 3
The primary goal of this course is to introduce students to the sociological research on global inequality and development with an emphasis on recent empirical studies. Offered Yearly.

SOC 4204 Seminar in Aging and the Life Course Cr. 3
Provides students with an overview of some major issues and research findings relating to aging and the life course with an emphasis on recent empirical studies. Offered Yearly.

SOC 4205 Seminar in Medical Sociology Cr. 3
Provides students with an overview of the current state of knowledge in medical sociology with an emphasis on recent empirical papers. Offered Yearly.

SOC 4460 Women in Society Cr. 3
In-depth investigation of the living and working conditions of women in the world today, with a particular emphasis on the impact of socioeconomic changes on the lives of women (including their relationships with men). Offered Yearly.

SOC 4600 Internship in Sociology Cr. 3
Sociology majors or minors volunteer at a local organization or agency that relates to their career interests. Assignments include completing internship hours, keeping a journal, completing a resume, and writing a research paper. Offered Every Other Year.
Prerequisite: SOC 1010 with a minimum grade of D or SOC 2300 with a minimum grade of D or SOC 3200 with a minimum grade of D
Restriction(s): Enrollment is limited to students in the Department of Sociology.

SOC 4996 Sociology: Capstone Course Cr. 3
Satisfies General Education Requirement: Writing Intensive Competency
Students choose a specific researchable topic related to the discipline and explore possible theoretical approaches. In addition, students develop a research proposal related to a topic which will include research methodology. Offered Fall, Winter.
Prerequisite: SOC 1010 with a minimum grade of D and SOC 2200 with a minimum grade of P and SOC 3050 with a minimum grade of D and SOC 3200 with a minimum grade of D and SOC 3220 with a minimum grade of D and SOC 4010 with a minimum grade of D
Restriction(s): Enrollment is limited to students in the Department of Sociology.

SOC 4999 Sociology Honors Thesis Cr. 3
Serves as a culminating experience honors students in sociology. Honors students in this course pursue original research under the tutelage of a faculty member of their choosing. Offered Every Term.
Prerequisite: SOC 1010 with a minimum grade of D and SOC 3200 with a minimum grade of D and SOC 3220 with a minimum grade of D and SOC 3050 with a minimum grade of D
Restriction(s): Enrollment limited to students with a class of Junior or Senior; enrollment is limited to students with a major in Sociology Honors.
Equivalent: SOC 4996
Repeatable for 6 Credits

SOC 5010 Selected Sociological Topics Cr. 1-4
Topics to be announced in Schedule of Classes. Offered Yearly.
Repeatable for 20 Credits

SOC 5020 End-of-Life Issues Cr. 3-4
Physical, spiritual, legal, economic, political, cultural, and ethical issues at the end of life, examined as stories about individuals, families, and communities. Offered Yearly.

SOC 5360 Introduction to Medical Sociology Cr. 3
Topics include the definition of illness, the distribution of death and disease in society, health promotion, help-seeking behavior, socialization of health care providers, the delivery of health care, and health care reform. Offered Yearly.

SOC 5400 The Family Cr. 3
An introduction to the sociology of the family: forms of organization, interaction patterns throughout the life cycle, ethnic and cultural differences, conflict and change. Especially useful for students in social work, counseling, family and consumer resources, nursing and education, as well as the other social sciences. Offered Every Term.

SOC 5410 Marriage and Family Problems Cr. 3
Social and historical context of marriage and family problems. Power, conflict, communication and crisis as they relate to the nature and dynamics of the family. Problem solving techniques; specific family problems: divorce or child abuse. Offered Every Term.

SOC 5570 Race Relations in Urban Society Cr. 3
Theoretical orientations applied analytically to enhance an understanding of the patterned structures of privilege in society which are based on race. Inequality, segregation-desegregation, pluralism; social structural frameworks; some attention to social-psychological aspects of topics such as prejudice and racism. Offered Intermittently.
Equivalent: AFS 5570

SOC 5580 Law and the African American Experience Cr. 4
In-depth examination of the African American experience with law in the U.S.; historical development of the U.S. Constitution; legal barriers to equality and the influence of race on the law; use of law as a political instrument; participation of blacks in the legal process; comparisons with other countries. Offered for undergraduate credit only. Offered Every Other Year.
Restriction(s): Enrollment is limited to Undergraduate level students.
Equivalent: AFS 5580

SOC 5700 Seminar in Social Inequality Cr. 3
Sociological framework for analyzing several inequalities in contemporary U.S. society. Race, class, and gender as individual topics and as they intersect in society; inequalities in personal life experience. Offered Yearly.

SOC 5760 Health and Life Course Cr. 3
Personal, interpersonal and institutional significance of aging and age categories. Sociological dimensions of aging based on physical, social-psychological, and demographic backgrounds. Offered Yearly.

SOC 5800 Topics in the Sociology of Sex and Gender Cr. 3
Explores the sociology of gender, as one of the most basic organizing mechanisms in society. Covers a broad overview of gender,including the following: themes: feminist theory, bodies, masculinities, work, work & family, families, migration, and politics. Offered Intermittently.
Prerequisite: SOC 4050 with a minimum grade of D-

SOC 5810 Law in Human Society Cr. 3
Law and the legal structure in its social context. The development, enforcement and interpretation of law; emphasis on the American system of government. Reciprocal effects of law and the society in which it develops; comparative analysis. Designed for pre-law, criminal justice, and political science students, as well as for sociology majors. Offered Yearly.
Equivalent: CRJ 5810

SOC 5870 Violence in the Family Cr. 3
Analysis of the nature of violence in family and family-like relationships; prevalence and types of family violence; social and social psychological correlates of violence in families. Offered Yearly.

SOC 6050 Sociological Theory I Cr. 3
Sociological theorists before 1920, their thought and the historical context in which such thought developed. Offered Yearly.
Prerequisite: SOC 2000 with a minimum grade of C-

SOC 6060 Sociological Theory II Cr. 3
Historical and theoretical analysis of sociological thought in the present century. Current trends in sociological theory. Offered Yearly.
Prerequisite: SOC 6050

SOC 6070 Sociological Analysis Cr. 3
An intensive examination of a wide range of sociological studies, designed to acquaint the student with how sociologists deal with important theoretical issues, using a variety of methods and sources of data. Particular attention will be paid to the logical coherence of the studies and to the fit between data and interpretation. Offered Every Other Year.
Prerequisite: SOC 6050 with a minimum grade of B

SOC 6280 Social Statistics Cr. 3
Basic techniques for organizing and describing social data, measures of central tendency and dispersion, probability theory and hypothesis testing, tests of significance and confidence intervals, measures of association for two variables, analysis of variance. Offered Yearly.
Prerequisite: SOC 4220 with a minimum grade of D-

SOC 6290 Advanced Social Statistics Cr. 3
Multiple and partial correlation and multiple regression, dummy variable analysis, analysis of covariance, causal models for multi-dimensional contingency tables, path analysis techniques, introductory factor analysis, Markov chains, selected additional topics. Offered Yearly.
Prerequisite: SOC 6280 with a minimum grade of B

SOC 6455 Discrimination and Fair Housing Cr. 3
Multidisciplinary investigation into the nature, motivations, consequences, and legal/public policy implications of racial/ethnic discrimination in housing and related markets in U.S. metropolitan areas. Offered Every Other Year.
Equivalent: AFS 6455, ECO 6455, PS 6455, UP 6455, US 6455

SOC 6580 Applied Sociology I: Research and Theory in Applied and Clinical Settings Cr. 4
Topics include the analysis of applied sociological theory and research design and ethical issues in applied and clinical social science projects, with emphasis on writing skills in applied and clinical research and theory. Offered Yearly.

SOC 6750 Sociology of Urban Health Cr. 3
Review of theories and research on health status and health care delivery issues in urban communities. Offered Intermittently.

SOC 7000 Internship in Applied Sociology Cr. 3
Guided internship with Detroit metropolitan private and public organizations arranged and supervised through the Program in Applied Sociology and Urban Studies. Offered Yearly.
Prerequisite: SOC 6580 with a minimum grade of C and SOC 7200 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

SOC 7010 Special Topics Cr. 1-16
Topics to be announced in Schedule of Classes . Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 16 Credits

SOC 7020 End-of-Life Issues Cr. 3-4
Physical, spiritual, legal, economic, political, cultural, and ethical issues at the end of life, examined as stories about individuals, families, and communities. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: ANT 7430, NUR 7515

SOC 7030 Introduction to Graduate Studies in Sociology Cr. 1
Introduction to the profession of sociology and areas of specialization. Workshops include conference presentations, mentoring, external grants, proposal development, academic job market and publishing. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Sociology.

SOC 7100 Women and Health Cr. 3
Analysis of sociological issues surrounding women and health, including gender differences in morbidity and mortality, the use of health services, interaction with providers, gender differences in mental disorder, alcoholism, drug abuse, gender roles and the professions of physicians and nurses. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.

SOC 7200 Advanced Survey of Approaches and Techniques of Social Research Cr. 3
Advanced conceptual treatment of the primary concerns of social research: perspectives and types of social research, research designs, sampling techniques, data-gathering techniques and instrument construction, data analysis and presentation, interpretation and reporting of the results. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.

SOC 7220 Seminar in Survey Research Methods Cr. 3
Hands-on approach to understanding the strengths and potential pitfalls of the survey method. Topics include: design of survey research (including theory, measurement and ethics), sampling (including special populations), questionnaire development and survey administration. Offered Intermittently.
Prerequisite: SOC 6800 with a minimum grade of C and SOC 7200 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

SOC 7260 Qualitative Sociology Cr. 3
Introduction to qualitative theories and methods through a series of research projects. Students collect their own data, process and analyze it. Projects are presented in class; relevant literature and debates are read and discussed. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.

SOC 7270 Analysis of Evaluation Data Cr. 3
Focuses on the analysis of causal effects for program evaluation data using both experimental and observational data. Models for the estimation of causal effects from experimental design are presented, including models for individual and cluster-level randomized trials, models for factorial and fractional experimental designs, and models for implementation fidelity. Models for the estimation of causal effects from non-experimental observational data include regression discontinuity analysis, propensity score methods, inverse probability weighting, sensitivity analysis to estimate selection bias and the estimation of effect bounds. Offered Winter.
Prerequisites: SOC 6280 with a minimum grade of C and SOC 6290 with a minimum grade of C and SOC 7200 with a minimum grade of C and SOC 7260 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

SOC 7280 Analysis of Complex Survey Data Cr. 3
Provides students the tools for analyzing complex, and often longitudinal, data sets with the use of statistical software packages such as SPSS and SAS. Offered Winter.
Prerequisites: SOC 6280 with a minimum grade of C and SOC 6290 with a minimum grade of C and SOC 7200 with a minimum grade of C and SOC 7260 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

SOC 7330 Class, Race, and Politics in America Cr. 3
Historical and analytic investigation into the role of class and race in American politics. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: AFS 6100, HIS 5110, PS 6050, UP 7030

SOC 7350 Urban Poverty and Racial Segregation Cr. 3
Review of theories of poverty from various economic/political perspectives; historical intervention policies; current literature on interplay of racial, economic, and spatial factors on growing economic inequality among urban whites and African-Americans. Political rationale and meaning of the underclass debate. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: AFS 6600, ANT 7260, PS 7260, UP 7260

SOC 7500 Advanced Qualitative Methods Cr. 3
Advanced analysis of qualitative methods, including but not limited to in-depth interviewing, focus groups, ethnography, discourse analysis, field research, narrative analysis. Stages of sampling, data collection, coding, and data analysis. No credit after SOC 7170. Offered Yearly.
Prerequisite: SOC 7260 with a minimum grade of B-
Restriction(s): Enrollment is limited to Graduate level students.

SOC 7510 Advanced Statistics II Cr. 3
Explores three of the most widely used advanced statistical methods in the social sciences: hierarchical linear modeling (HLM), also known as multi-level modeling; event history analysis (EHA); and structural equation modeling (SEM). We will also learn logistic regression and possible extensions to other categorical outcome techniques. Each of these techniques has been developed to handle situations, data structures, outcomes, and research questions that are difficult, inappropriate, or impossible to handle using typical regression models (both linear and categorical). Offered Intermittently.
Prerequisite: SOC 6280 with a minimum grade of C and SOC 6290 with a minimum grade of C and SOC 7220 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

SOC 7520 Advanced Field Research Cr. 3
This graduate course is designed as a practice oriented, interactive seminar. Students are expected to select their own social group or geographic location in the Detroit Metro area and perform both participant observations and interviewing. We explore issues and dilemmas encountered in ethnographic research, including ethics, choosing a site, entry/access/exit, analyses, and writing about your data. This course is far more focused on the practice of doing ethnography than it is on exploring the philosophical or methodological justifications of this approach over other methodologies. Consequently, students should begin this course with an idea for a qualitative study so the material is relevant to a particular project. Offered Intermittently.
Prerequisite: SOC 7260 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

SOC 7760 Health and Life Course Cr. 3
Focuses on life course theory, methods, and their application. Working from a life course perspective, students will learn various theoretical and methodological approaches to analyze health as well as explain health inequality and disparities. Key concepts, such as age, period, and cohort, found in the life course literature will be covered. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.

SOC 7770 Seminar in Medical Sociology Cr. 3
Converging issues of theory, research and practice in general hospitals, mental hospitals, and nursing homes. Structure of institutions and the adaptation of individuals within them. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.

SOC 7780 Topics in the Sociology of Health and Illness Cr. 3
Considers the influence of social environment and social experience on health and illness, emphasizing the unique perspectives sociology offers in the larger inter-disciplinary discussion of health and focusing on differences in health across social groups. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 9 Credits

SOC 7800 Topics in the Sociology of Sex and Gender Cr. 3
Explores the sociology of gender, as one of the most basic organizing mechanisms in society. Covers a broad overview of gender,including the following: themes: feminist theory, bodies, masculinities, work, work & family, families, migration, and politics. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 9 Credits

SOC 7810 Race Relations in Urban Society Cr. 3
Covers the historical and contemporary effects of racial segregation on racial inequality in U.S. urban environments, with a special focus on Metro Detroit. The course also assesses the role social institutions like religious organizations, politics, economics, education, and the family have played in pushing for greater racial and social equality in the region. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.

SOC 7820 International Migration Cr. 3
Offers a comprehensive overview of the key current theoretical and empirical debates in the study of international migration. The goal is to explore the possibilities of a comparative (historical and cross-national) research program in the field, linking North America, European and other global experiences of migration. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students.

SOC 7990 Directed Study Cr. 1-6
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 6 Credits

SOC 7995 Directed Teaching in Sociology Cr. 1
Students work under the direction of a member of the graduate faculty; planning lectures, handling class discussions, preparing exams, and grading introductory sociology students. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.

SOC 7999 Master's Essay Cr. 1-3
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students with a class of Candidate Masters.

SOC 8200 Mixed Methods Cr. 3
Exposes students to research on mixed methods including methodologies, research design, and empirical applications in published work. Half of the course will focus on learning about the most commonly utilized qualitative and quantitative methodologies and the other half will focus on mixed methods approaches. Offered Intermittently.
Prerequisite: SOC 6280 with a minimum grade of C and SOC 7200 with a minimum grade of C and SOC 7260 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

SOC 8250 Longitudinal Data Analysis Cr. 3
Examines common models of longitudinal data analysis in sociology, which are also commonly used within the broader social sciences. Key topics covered in this class include linear panel analysis, event history analysis, and the analysis of repeated cross-sectional data. Offered Intermittently.
Prerequisite: SOC 6280 with a minimum grade of C and SOC 6290 with a minimum grade of C and SOC 7200 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

SOC 8400 Seminar in Sociology of the Family Cr. 3
Theoretical orientations and applications to family issues. Substantive topics will vary but include changing family structures and life styles, socialization/parenting, family/gender roles, family interaction/communication/power, crisis/stress, divorce/remarriage, and families over the life course. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students.

SOC 8700 Seminar in Social Inequality Cr. 3
Sociological framework for analyzing several inequalities in contemporary U.S. society. Race, class, and gender as individual topics and as they intersect in society; inequalities in personal life experience. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.

SOC 8710 Advanced Seminar in Race/Ethnicity Cr. 3
Topics include advanced theoretical and methodological debates in the sociology of race and ethnicity, an analysis of the social construction of race, and the structural implications of subordination, discrimination and privilege. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.

SOC 8720 Advanced Seminar in Sex/Gender Cr. 3
Topics include advanced theoretical and methodological debates in the sociology of sex and gender, an analysis of the social construction of gender, and the structural implications of subordination, discrimination and privilege. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.

SOC 8801 Topics in the Sociology of Labor Cr. 3
Seminar: advanced topics in sociology of work and labor. Topics will include: social nature of work, transformation of the labor process, forms of control in the workplace, resistance, gender and race in the workplace. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 6 Credits

SOC 8802 Topics in Urban Sociology Cr. 3
Seminar: topics in the area; may include: urban enclaves, suburbanization, world cities, gentrification, integration/segregation, urban environmentalism, health in cities. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 6 Credits

SOC 8803 Globalization, Gender, and Work Transformations Cr. 3
Reviews recent scholarship on globalization, gender and work transformation in the global north and south. Putting gender at the center of globalization discourses highlights the historical and cultural variability of gender relations intersecting with class, race and nationality, and highlights the impact of restructuring on workers, organizations and institutions at the local, national and regional levels. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students.

SOC 8805 Sociology of Urban and Labor Studies Cr. 3
Graduate seminar which provides the theoretical foundations of the area of urban and labor sociology. Topics include: the labor process, labor markets, labor movements, globalization and work, race and inequality in urban contexts, power and politics, and migration. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 6 Credits

SOC 8990 Directed Study Cr. 2-6
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 6 Credits

SOC 8999 Master's Thesis Cr. 1-8
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students with a class of Candidate Masters.
Repeatable for 8 Credits

SOC 9990 Pre-Doctoral Candidacy Research Cr. 1-8
Research in preparation for doctoral dissertation. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 12 Credits

SOC 9991 Doctoral Candidate Status I: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.

SOC 9992 Doctoral Candidate Status II: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: SOC 9991 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

SOC 9993 Doctoral Candidate Status III: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: SOC 9992 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

SOC 9994 Doctoral Candidate Status IV: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: SOC 9993 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

SOC 9995 Candidate Maintenance Status: Doctoral Dissertation Research and Direction Cr. 0
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $370.26
Repeatable for 0 Credits

SPA - SPANISH

SPA 1010 Elementary Spanish I Cr. 4
Introduction to the Spanish language and Hispanic culture through interactive and communicative reading, writing, listening and speaking activities to develop language and cultural proficiency. No experience with Spanish is needed. Offered Every Term.
Course Material Fees: $5

SPA 1020 Elementary Spanish II Cr. 4
Continuing study of the Spanish language and Hispanic culture through interactive and communicative reading, writing, listening and speaking activities to develop language and cultural proficiency. Offered Every Term.
Prerequisites: SPA 1010 with a minimum grade of C-
Course Material Fees: $5

SPA 1060 Elementary Spanish I and II Cr. 6
Designed for students with previous experience with Spanish or another Romance language who would like an abbreviated review before continuing their studies. The first third of the semester is an accelerated review of SPA 1010; the remainder of the semester covers SPA 1020 coursework. Offered Every Term.
Course Material Fees: $5

SPA 2010 Intermediate Spanish Cr. 4
Satisfies General Education Requirement: Foreign Culture, Global Learning Inquiry
Continuing study of the Spanish language and Hispanic culture through interactive and communicative reading, writing, listening and speaking activities to develop language and cultural proficiency. Completion of this course fulfills the General Education requirement for foreign language and culture. Offered Every Term.
Prerequisites: SPA 1020 with a minimum grade of C- or SPA 1060 with a minimum grade of C-
Course Material Fees: $5

SPA 2025 Cultural Connections, Grammar and Composition I Cr. 3
Cultural readings and situations to continue to improve ability to speak, read, write and listen in the Spanish language. Offered Every Term.
Prerequisites: SPA 2010 with a minimum grade of C
Course Material Fees: $5

SPA 2400 Chicano/a Literature and Culture Cr. 3
Satisfies General Education Requirement: Cultural Inquiry, Civ and Societies (CLAS only), Diversity Equity Incl Inquiry, Global Learning Inquiry
Examination of Chicano/a literature. Themes and figures in a social and historical context. Offered Every Other Year.
Equivalent: LAS 2100

SPA 2500 Puerto Rican Literature and Culture Cr. 3
Satisfies General Education Requirement: Cultural Inquiry, Civ and Societies (CLAS only), Diversity Equity Incl Inquiry
Examination of Puerto Rican literature. Themes and figures in a social and historical context. Offered Every Other Year.
Equivalent: LAS 2110

SPA 2700 Anguish and Commitment: European Existentialist Literature Cr. 3-4
Satisfies General Education Requirement: Cultural Inquiry, Philosophy Letters
A team-taught interdisciplinary study in English of representative works by European existentialist writers: Dostoevsky, Hesse, Kafka, Pirandello, Sartre, Camus and Unamuno. Offered Every Other Year.
Equivalent: FRE 2700, GER 2700, ITA 2700

SPA 3025 Cultural Connections, Grammar and Composition II Cr. 3
Cultural readings and situations to continue to improve ability to speak, read, write and listen in the Spanish language, with an emphasis on vocabulary building and critical thinking. Offered Every Term.
Prerequisites: SPA 2025 with a minimum grade of C

SPA 3040 Commercial Spanish Cr. 3
Commercial Spanish for basic business, legal and banking transactions and correspondence; terminology used in banking, commerce, accounting and marketing; emphasis on translation and format of commercial documents and letters. Offered Yearly.
Prerequisites: SPA 2025 with a minimum grade of C

SPA 3050 Spanish for the Health Care Profession Cr. 3
General review of pertinent grammar and specific vocabulary groups relating to specific tasks in the health care professions. Discussions leading to cultural competencies. Exploration of cultural and social factors for communicating with Spanish-speaking patients. Offered Yearly.
Prerequisites: SPA 2025 with a minimum grade of C

SPA 3200 Conversation Cr. 3
Informal class conversations, debates and oral reports to reinforce grammatical principles and to improve pronunciation through practice and imitation. Offered Yearly.
Prerequisites: SPA 2025 with a minimum grade of C

SPA 3300 Introduction to Cultural and Literary Analysis Cr. 3
Discussion of literary and cultural readings from Spain and Spanish America; vocabulary building; speaking and reading emphasized. Offered Every Term.
Prerequisites: SPA 3025 with a minimum grade of C or SPA 3100 with a minimum grade of C

SPA 3800 Spanish for Heritage Learners Cr. 3
Review of grammar and composition for Spanish heritage learners. Conducted entirely in Spanish. Offered Intermittently.
Prerequisites: SPA 2025 with a minimum grade of C
Equivalent: LAS 3800

SPA 4610 Introduction to Early Modern Spanish Literature Cr. 3
Spanish literature from the Renaissance to 1700. Offered Yearly.
Prerequisites: SPA 3300 with a minimum grade of C

SPA 4620 Introduction to Modern and Contemporary Spanish Literature Cr. 3
Spanish literature from 1700 to the present. Offered Yearly.
Prerequisites: SPA 3300 with a minimum grade of C

SPA 4630 Introduction to Colonial Latin American Literature Cr. 3
A historically and culturally situated introduction to the literature of Early Latin America. Offered Yearly.
Prerequisites: SPA 3300 with a minimum grade of C

SPA 4640 Introduction to Modern and Contemporary Latin American Literature Cr. 3
Literature in the twentieth and twenty-first century. Offered Every Other Year.
Prerequisites: SPA 3300 with a minimum grade of C

SPA 5000 Minor Language Practicum Cr. 3
Controlled application of active language skills for students electing a Ph.D. minor in Spanish. No degree credit toward Ph.D. Offered for graduate credit only. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 9 Credits

SPA 5100 Advanced Composition Cr. 3
Satisfies General Education Requirement: Writing Intensive Competency
Study and utilization of Spanish in written form: colloquial usage, literary Spanish, commercial Spanish, idiomatic expressions. Brief compositions and translation exercises. Conducted entirely in Spanish. Offered Yearly.
Prerequisites: SPA 3025 with a minimum grade of C

SPA 5200 Spanish Phonetics Cr. 3
A systematic study of Spanish sounds; conducted in Spanish. Offered Yearly.
Prerequisites: SPA 3025 with a minimum grade of C

SPA 5300 Advanced Grammar and Stylistics Cr. 3
Intensive study of grammar and syntax. Free composition and conversation. Conducted in Spanish. Offered Every Other Year.
Prerequisites: SPA 5100 with a minimum grade of C or SPA 3025 with a minimum grade of C

SPA 5400 Introduction to Professional and Literary Translation Cr. 3
Introduction to the practice and principles of translation, both from English to Spanish and Spanish to English, for intermediate to advanced Spanish students. Practice in translating: literary works, legal and medical documents, commercial advertisements, and other texts, while becoming familiar with the history and aspects of the theory of translation. Students will become aware of the importance of translation in areas such as cultural diplomacy, literary studies, law, business and medicine. Offered Every Other Year.
Prerequisites: SPA 3025 with a minimum grade of C

SPA 5550 Spanish Culture and Its Tradition Cr. 3
Spain's cultural history: painting, sculpture, architecture and music, through films, records, newspapers, and other texts. Offered Every Other Year.
Prerequisites: SPA 4610 with a minimum grade of C or SPA 4620 with a minimum grade of C or SPA 4630 with a minimum grade of C or SPA 4640 with a minimum grade of C

SPA 5560 Spanish American Cultures and their Traditions Cr. 3
Spanish America before and after the discovery of the New World. Art, music, customs, contemporary institutions, through films, records, newspapers, gallery visit to Detroit Institute of Art, and the text. Offered Every Other Year.
Prerequisites: SPA 4610 with a minimum grade of C or SPA 4620 with a minimum grade of C or SPA 4630 with a minimum grade of C or SPA 4640 with a minimum grade of C
Equivalent: LAS 5560

SPA 5570 Topics in Hispanic Culture or Language Cr. 3
Specific themes, genres, movements or periods. Topics to be announced in Schedule of Classes. Offered Intermittently.
Prerequisites: SPA 4610 with a minimum grade of C or SPA 4620 with a minimum grade of C or SPA 4630 with a minimum grade of C or SPA 4640 with a minimum grade of C

SPA 5600 Advanced Conversation Cr. 3
Development of advanced conversation skills for Spanish majors and minors. Students will learn strategies to effectively engage in conversations, discussions, debates, and oral presentations. The course is also designed to increase students' awareness of current cultural processes in the Hispanic world through the oral discussion and analysis of readings, cinema, digital media, and other forms of cultural production. Offered Every Other Year.
Prerequisites: SPA 3025 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students.

SPA 5990 Directed Study Cr. 1-4
Offered Every Term.
Repeatable for 8 Credits

SPA 6400 Introduction to Hispanic Linguistics Cr. 3
Principles of linguistics and their application to Spanish. Offered Every Other Year.
Prerequisite: SPA 5200 with a minimum grade of C-

SPA 6410 Spanish Medieval Literature: Origins to 1500 Cr. 3
Main currents and masterworks of Spanish literature from its origins to 1500. (Formerly SPA 6500.) Offered Every Other Year.
Prerequisites: SPA 4610 with a minimum grade of C or SPA 4620 with a minimum grade of C or SPA 4630 with a minimum grade of C or SPA 4640 with a minimum grade of C

SPA 6420 Early Modern Spanish Studies Cr. 3
Literary genres of the early modern period (poetry and narrative: picaresque, pastoral, morisco, and chivalric). Offered Every Other Year.
Prerequisites: SPA 4610 with a minimum grade of C or SPA 4620 with a minimum grade of C or SPA 4630 with a minimum grade of C or SPA 4640 with a minimum grade of C

SPA 6440 Spanish Literature of the Eighteenth Century Cr. 3
Literature of the Spanish Enlightenment; major works and literary trends and movements in the Spanish eighteenth century up to Romanticism. (Formerly SPA 6520.) Offered Every Other Year.
Prerequisites: SPA 4610 with a minimum grade of C or SPA 4620 with a minimum grade of C or SPA 4630 with a minimum grade of C or SPA 4640 with a minimum grade of C

SPA 6450 Spanish Romanticism Cr. 3
Origins and development of Romanticism in Spain: theatre, poetry, costumbrismo, and other narrative. Offered Every Other Year.
Prerequisites: SPA 4610 with a minimum grade of C or SPA 4620 with a minimum grade of C or SPA 4630 with a minimum grade of C or SPA 4640 with a minimum grade of C

SPA 6470 The Spanish Novel of the Twentieth Century Cr. 3
Novelists of the twentieth century, including those of the Silver Age (1900-1936) and those associated with Tremendismo, Social Realism, and the contemporary experimental novel. (Formerly SPA 6993.) Offered Every Other Year.
Prerequisites: SPA 4610 with a minimum grade of C or SPA 4620 with a minimum grade of C or SPA 4630 with a minimum grade of C or SPA 4640 with a minimum grade of C

SPA 6490 Spanish Poetry of the Nineteenth and Twentieth Centuries Cr. 3
Representative figures and trends in Modern and contemporary Spanish poetry. Post-Romanticism, Symbolism, the Silver Age (1900-1936), and contemporary poetry. Offered Every Other Year.
Prerequisites: SPA 4610 with a minimum grade of C or SPA 4620 with a minimum grade of C or SPA 4630 with a minimum grade of C or SPA 4640 with a minimum grade of C

SPA 6560 Cervantes Cr. 3
A detailed study of Don Quijote. Other short works of Cervantes. Offered Every Other Year.
Prerequisites: SPA 4610 with a minimum grade of C or SPA 4620 with a minimum grade of C or SPA 4630 with a minimum grade of C or SPA 4640 with a minimum grade of C

SPA 6570 The Comedia Cr. 3
Analysis of plays by Lope de Vega, Tirso de Molina, Calderon, Maria de Zayas and other dramatists of Spain's Golden Age. Offered Every Other Year.
Prerequisites: SPA 4610 with a minimum grade of C or SPA 4620 with a minimum grade of C or SPA 4630 with a minimum grade of C or SPA 4640 with a minimum grade of C

SPA 6590 Genres and Topics in Peninsular Spanish Literature Cr. 3
Topics such as twentieth-century Spanish theatre, the Picaresque novel, and eighteenth-century Spanish theatre, to be announced in Schedule of Classes. Offered Every Other Year.
Prerequisites: SPA 4610 with a minimum grade of C or SPA 4620 with a minimum grade of C or SPA 4630 with a minimum grade of C or SPA 4640 with a minimum grade of C
Repeatable for 9 Credits

SPA 6600 Colonial Latin American Studies Cr. 3
The writing of Colonial Latin America. Cultural encounter and negotiation seen through literature, history and the arts. Offered Every Other Year.
Prerequisites: SPA 4610 with a minimum grade of C or SPA 4620 with a minimum grade of C or SPA 4630 with a minimum grade of C or SPA 4640 with a minimum grade of C

SPA 6620 Latin American Novel in the 20th and 21st Centuries Cr. 3
Roots of the modern novel in Spanish America; its stages of evolution through the vanguard period into the contemporary stage, with emphasis on representative figures such as Carpentier, Cortazar, and Garcia Marquez. Offered Every Other Year.
Prerequisites: SPA 4610 with a minimum grade of C or SPA 4620 with a minimum grade of C or SPA 4630 with a minimum grade of C or SPA 4640 with a minimum grade of C

SPA 6630 Spanish American Poetry Cr. 3
Major figures of the twentieth century and their texts, from the Vanguard period to contemporary poetry. Offered Every Other Year.
Prerequisites: SPA 4610 with a minimum grade of C or SPA 4620 with a minimum grade of C or SPA 4630 with a minimum grade of C or SPA 4640 with a minimum grade of C

SPA 6670 Latin American Novel to 1900 Cr. 3
Late colonial period to 1900. Offered Every Other Year.
Prerequisites: SPA 4610 with a minimum grade of C or SPA 4620 with a minimum grade of C or SPA 4630 with a minimum grade of C or SPA 4640 with a minimum grade of C

SPA 6690 Genres and Topics in Spanish American Literature Cr. 3
Topics in the literature of Spanish America, such as the short story or theatre, to be announced in Schedule of Classes. Offered Every Other Year.
Prerequisites: SPA 4610 with a minimum grade of C or SPA 4620 with a minimum grade of C or SPA 4630 with a minimum grade of C or SPA 4640 with a minimum grade of C
Repeatable for 9 Credits

SPA 6700 Spanish Literature of the Silver Age: 1900-1936 Cr. 3
Writers of the first three decades of the twentieth century; current narratological theories applied to intertextual maneuvers and philosophical concepts. Offered Intermittently.
Prerequisites: SPA 4610 with a minimum grade of C or SPA 4620 with a minimum grade of C or SPA 4630 with a minimum grade of C or SPA 4640 with a minimum grade of C

SPA 6710 Unamuno's Existential Fiction Cr. 3
Important novels of Miguel de Unamuno; emphasis on characters and their agonization in a circumscribed area. Offered Intermittently.
Prerequisites: SPA 4610 with a minimum grade of C or SPA 4620 with a minimum grade of C or SPA 4630 with a minimum grade of C or SPA 4640 with a minimum grade of C

SPA 7010 Introduction to Literary Theory Cr. 3
Graduate-level introduction to key critical perspectives, theories, problems, and questions that have informed the discussions and analyses of twentieth- and twenty-first-century literary and cultural scholars. Specific theoretical paradigms used to determine the task of textual interpretation, locate the limits of each approach, trace the emergence of subsequent theoretical paradigms, and think about how such theories might or might not be relevant in the study of specific texts. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: CLA 7010, FRE 7010, GER 7010, ITA 7010, NE 7010, SLA 7010

SPA 7510 History of the Spanish Language Cr. 3
Origins, development and linguistic status of the Spanish language in Spain and Spanish America. Offered Every Other Year.
Prerequisite: SPA 5200 with a minimum grade of C-
Restriction(s): Enrollment is limited to Graduate level students.

SPA 7770 Special Studies in Spanish Literature Cr. 3
Study of the works of an outstanding writer, a literary genre, or literary trends. Offered Fall, Winter.
Prerequisites: SPA 6410-6710 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 12 Credits

SPA 7996 Research Project Cr. 1-4
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 12 Credits

SPA 7999 Master's Essay Direction Cr. 1-3
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students with a class of Candidate Masters.

SPA 8420 Seminar in Hispanic Linguistics Cr. 3
Seminar topics will vary according to the principal divisions of Spanish linguistics: phonology, morphology, lexicography, syntax, and dialectology. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: LIN 7320
Repeatable for 9 Credits

SPA 8510 Seminar in the Golden Age Cr. 3
Topics to be announced in Schedule of Classes. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 9 Credits

SPA 8530 Seminar in Spanish Literature of the Eighteenth and Nineteenth Centuries Cr. 3
Topics to be announced in Schedule of Classes. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 9 Credits

SPA 8550 Seminar in Spanish Literature of the Twentieth Century Cr. 3
Topics to be announced in Schedule of Classes. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 9 Credits

SPA 8610 Seminar in Spanish American Narrative Cr. 3
Narrative genres in Spanish America including short story, essay, novel, short novel; development, history, period characterization. Topics to be announced in Schedule of Classes. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 9 Credits

SPA 8999 Master's Thesis Research and Direction Cr. 1-8
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students with a class of Candidate Masters.
Repeatable for 8 Credits

SPA 9990 Pre-Doctoral Candidacy Research Cr. 1-8
Research in preparation for doctoral dissertation. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 12 Credits

SPA 9991 Doctoral Candidate Status I: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.

SPA 9992 Doctoral Candidate Status II: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: SPA 9991 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

SPA 9993 Doctoral Candidate Status III: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: SPA 9992 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

SPA 9994 Doctoral Candidate Status IV: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: SPA 9993 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students.

SPA 9995 Candidate Maintenance Status: Doctoral Dissertation Research and Direction Cr. 0
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $370.26
Repeatable for 0 Credits

SSE - SOCIAL STUDIES EDUCATION

SSE 5720 Social Studies Disciplines for Elementary Teachers Cr. 3
A review of the major concepts of history, geography, political science, and economics to plan for learning in a K-8 setting. Offered Every Term.

SSE 6710 Methods and Materials of Instruction in Secondary Social Studies Cr. 3
Foundations of social studies instruction and curriculum; methods of teaching in middle and senior high school, including the use of state standards in the design of instruction, teaching approaches for the various social studies disciplines, their interdisciplinary application, diversity and appreciation of other cultures. Offered Every Term.
Restriction(s): Enrollment limited to students in the College of Education.

SSE 6720 Teaching the Interdisciplinary Knowledge of Social Studies Cr. 3
Building interdisciplinary knowledge and pedagogical skills in the social studies, including media literacy. Offered Fall.

SSE 6730 New Perspectives in Social Studies Education Cr. 3
Development of curricular lesson plans, unit plans, and other teaching strategies utilizing current approaches in social studies education. Offered Winter, Spring/Summer.
Restriction(s): Enrollment limited to students in the College of Education.

SSE 7780 Readings in the Social Studies Cr. 3
A reading seminar with emphasis on content and teaching strategies for social studies education. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Graduate level students.

SSE 8740 Graduate Seminar in Social Studies Education Cr. 3
Application of theories of social education to curricular designs and innovative instruction pertaining to Detroit's past and present, integrated with visits to cultural sites. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.

STA - STATISTICS

STA 1020 Elementary Statistics Cr. 3
Satisfies General Education Requirement: Quantitative Experience Comp
Descriptive statistics, correlation and regression, notions in probability, binomial and normal distributions, testing hypothesis. Offered Every Term.

STA 2210 Probability and Statistics Cr. 4
Satisfies General Education Requirement: Quantitative Experience Comp
Basic probability theory (definition of probability, conditional probability, independence, random variables, expectation and variance, normal distribution, law of large numbers, central limit theorem), descriptive statistics (histograms, scatter plots, box plots, mean, variance, quantiles, empirical rule, z-scores), statistical inference (confidence intervals for mean, t-tests, chi-square tests, linear regression, analysis of variance) and data analysis. Offered Every Term.
Prerequisites: MAT 1800 with a minimum grade of C- or MAT 2010-2350 with a minimum grade of C- or MAT Permit to Reg ACT/SAT with a test score minimum of 4 or Math Permit to Reg - L1-L4 with a test score minimum of 4

STA 5030 Statistical Computing and Data Analysis Cr. 3
Computational aspect of statistics and data analysis for advanced undergraduate and beginning graduate students. Topics include descriptive statistics, probability distributions, hypothesis testing, ANOVA, linear regression and logistic regression. Data analysis by use of statistical packages such as R, SAS, Python, SPSS or Minitab. Satisfies Society of Actuaries Validation by Educational Experience (VEE) in Applied Statistics for regression component with a B- or better. Offered Yearly.
Prerequisites: MAT 2250 or MAT 2150 and MAT 2210 or STA 2210 or MAT 5700 or BE 2100 or ECO 5100 or PH 3200

STA 5800 Introduction to Mathematical Statistics Cr. 4
A one-semester course for senior undergraduate and master's degree students. Introduction to basic mathematical theory of statistics. Topics include survey sampling, estimation theory, data analysis and sample statistics, testing hypothesis, two sample cases, analysis of variance, regression analysis, Bayesian inference. Satisfies Society of Actuaries Validation by Educational Experience (VEE) in Applied Statistics for regression component with a B- or better. Offered Yearly.
Prerequisite: MAT 5700 with a minimum grade of C-

STA 5830 Applied Time Series Cr. 3
Time series models, moving average models, autoregressive models, non-stationary models, and more general models; point estimators, confidence intervals, and forecast in the time domain. Statistical analysis in the frequency domain; spectral density and periodogram. Satisfies Society of Actuaries Validation by Educational Experience (VEE) in Applied Statistics for regression component with a B- or better. Offered Every Other Year.
Prerequisites: MAT 2250 or MAT 2150 and MAT 2210 or STA 2210 or BE 2100 and ECO 5100 or PH 3200

STA 6830 Design of Experiments Cr. 3
Randomized blocks; Latin and Graeco-Latin squares; factorial designs; confounding; split plot; fractional replication; balanced incomplete blocks. Offered Intermittently.
Prerequisites: MAT 2250 or MAT 2150 and MAT 2210 or STA 2210 or BE 2100 or ECO 5100 or PH 3200

STA 6840 Linear Statistical Models Cr. 3
Multivariate linear regression models, examples; least square estimates and system of normal equations; the Gauss-Markov theorem; hypothesis testing about regression coefficients; confidence intervals and regions; prediction; model selection, stepwise regression. Analysis of variances (ANOVA). Offered Every Other Year.
Prerequisites: MAT 5800 or STA 5800

STA 7810 Advanced Statistics Theory I Cr. 3
First of two basic courses for Ph.D. students in the Mathematics Department who are interested in statistics. Topics include sample distribution theory, point and interval estimations, optimal estimates, theory of hypothesis testing, and most powerful tests. Offered Every Other Year.
Prerequisite: MAT 5610 with a minimum grade of C and MAT 5700 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

STA 7820 Advanced Statistics Theory II Cr. 3
Continuation of STA 7810. Topics include regression analysis, linear models, analysis of categorical data, nonparametric statistics, decision theory, and Bayesian inference. Offered Every Other Year.
Prerequisite: MAT 7810 with a minimum grade of C or STA 7810 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

STA 7870 Topics in Statistics Cr. 3-4
Selected topics such as statistical estimation theory; theory of statistical hypothesis testing; non-parametric methods in statistics; statistical sequential analysis; statistical multivariate analysis. Topics to be announced in Schedule of Classes. Offered Every Other Year.
Prerequisite: MAT 7810 with a minimum grade of C or STA 7810 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 12 Credits

STE - SUSTAINABLE ENGINEERING

STE 5410 Energy, Emissions, Environment (E3) Design Cr. 3
Provides students the tools to uncover the relation between energy consumption and energy generation and optimize processes to take most advantage of low emitting energy options. Exposes students to design tools and methodologies from a diverse group of sources including US EPA, DOE, EIA, and the latest in emerging research. Offered Fall.
Equivalent: AET 5410, CE 5410

STE 6100 Introduction to Sustainable Engineering Cr. 3
Economic, environmental, social, and technological perspectives relevant to the design, operation and management of engineering activities. Multiple perspectives addressed from a system sustainability view point. Offered Yearly.
Equivalent: CHE 6100

STE 6270 Sustainability Assessment and Management Cr. 3
Sustainability assessment and management for engineering design and development; theoretical, regulatory, and practical implications; Detroit and global applications. Offered Yearly.
Prerequisites: CE 4210 with a minimum grade of C-
Equivalent: CE 6270

STS - STUDY SKILLS

STS 0400 Wayne Med Direct Pre-Freshman Summer Enrichment Program Cr. 0
Offered in the Summer semester prior to the freshman year to entering Wayne Med-Direct scholars, the course is designed as an orientation to campus life and the Med-Direct program. Successful completion of this course is mandatory for all Wayne Med-Direct scholars. Offered Spring/Summer.

STS 0900 President M. Roy Wilson Summer Build Program Cr. 0
Provides an introduction to research for Wayne State University's Summer BUILD program. Elements include university and library navigation, financial literacy, math, english composition, physics, chemistry, biology, bio-chemistry, research topics and methods. Offered Spring/Summer.

SW - SOCIAL WORK

SW 1010 Introduction to Social Work and Social Welfare Cr. 3
Satisfies General Education Requirement: Diversity Equity Incl Inquiry
Survey of selected social welfare programs in the United States; history and development; focus on issues related to poverty and dependence. Offered Fall, Winter.

SW 3010 Social Work Practice Method I Cr. 4
First of four courses providing knowledge, skills and framework for entry level generalist practice including a service learning project. Offered Fall.
Restriction(s): Enrollment limited to students in the Bachelor of Social Work program.

SW 3020 Social Work Practice Method II Cr. 3
Continuation of four-course sequence. Introduction to a problem-solving guide for effecting situational change; emphases on assessment in the problem-solving process and on social work-client interactions during the middle and ending phases of social work intervention. Comparing and contrasting social work knowledge, skills and dynamics in social work practice with individuals and small groups; Analysis of student experience in the social work practicum. Offered Winter, Spring/Summer.
Prerequisite: SW 3010 with a minimum grade of D-
Restriction(s): Enrollment limited to students in the Bachelor of Social Work program.

SW 3030 Professional Writing for Social Workers Cr. 2
Introduces social work students to professional social work writing. Designed to create a foundation for grammar, usage, style, and genre-specific writing for use in all practice settings. Offered Fall.
Restriction(s): Enrollment limited to students in the Bachelor of Social Work program.

SW 3110 Diversity, Oppression and Social Justice Cr. 3
Diverse cultures, family structure, roles, immigration and assimilation experiences of marginalized groups; influence of dominant culture on these groups. Offered Fall, Winter.
Restriction(s): Enrollment limited to students in the Bachelor of Social Work program.

SW 3410 Foundations of Ethics and Values in Social Work Cr. 3
Beginning course in the principles, values and ethics which underlie the profession of social work. Meaning of concepts and process of thinking about and resolving ethical dilemmas, the promotion of ethical questions, and knowledge of their historical contexts. Critical interpretation and evaluation of philosophical texts, positions, and arguments. Offered Winter, Spring/Summer.
Restriction(s): Enrollment is limited to students with a major, minor, or concentration in Social Work.

SW 3510 Human Behavior in the Social Environment Cr. 3
Ecological systems perspective presented. Knowledge and theories of human development across the life span. Human behavior studied within the context of the social systems in which people live, including families, peer groups, organizations, and communities. Emphasis on how social systems promote and deter human development and the influence of diversity on human development. Offered Fall.
Restriction(s): Enrollment limited to students in the Bachelor of Social Work program.

SW 3710 Social Welfare and the Social Work Profession: History, Trends and Basic Concepts Cr. 3
History of social welfare in the United States. Basic concepts of social welfare. The profession of social work in historical perspective. Current trends and issues in social welfare and in the profession of social work. Offered Fall.
Restriction(s): Enrollment limited to students in the Bachelor of Social Work program.

SW 3810 Research Methods, Data Analysis, and Practice Evaluation I Cr. 3
Descriptive research methods for social work concepts and skills of problem formulation; research design; description and critical analysis of research studies; integration of descriptive statistics and data analysis within social work context. Offered Winter.
Prerequisites: May be taken concurrently: MAT 0993 with a minimum grade of CNC (must be taken at WSU) or MAT 0900 with a minimum grade of CNC (must be taken at WSU) or MAT 2010-6000 with a minimum grade of C- or MAT 1000-1800 with a minimum grade of C- or MAT Permit to Reg ACT/SAT with a test score minimum of 2-4 or Math Permit to Reg - L1-L4 with a test score minimum of 2-4
Restriction(s): Enrollment limited to students in the Bachelor of Social Work program.

SW 4010 Social Work Group Theory and Practice Cr. 3
Social work practice related to groups; knowledge and theories related to groups. Offered Fall, Spring/Summer.
Prerequisite: SW 3020 with a minimum grade of D- and SW 4998 (may be taken concurrently) with a minimum grade of M
Restriction(s): Enrollment limited to students in the Bachelor of Social Work program.

SW 4020 Social Work Macro Theory and Practice Cr. 3
Emphasizes knowledge, theory and practice in organizations, neighborhoods and communities. Students will learn a range of macro practice assessment and intervention skills to solve problems in social service organizations, social welfare systems, and communities for the purpose of empowerment, social and economic justice, and social change. Offered Fall, Winter.
Prerequisite: SW 4010 with a minimum grade of D- and SW 4998 (may be taken concurrently) with a minimum grade of M
Restriction(s): Enrollment limited to students in the Bachelor of Social Work program.

SW 4441 Field Education Seminar I Cr. 1
Understanding the learning experience through critical reflection on field and course work. Offered Fall, Spring/Summer.
Prerequisite: SW 4998 (may be taken concurrently) with a minimum grade of M
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Social Work.

SW 4442 Field Education Seminar II Cr. 1
Understanding the learning experience through critical reflection on field and course work. Offered Fall, Winter.
Prerequisite: SW 4998 (may be taken concurrently) with a minimum grade of M
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment limited to students in the School of Social Work.

SW 4710 Social Welfare in the United States: Current Programs Cr. 3
Description and analysis of major social welfare programs in the United States. Offered Fall.
Prerequisite: SW 3710 with a minimum grade of D-
Restriction(s): Enrollment limited to students in the Bachelor of Social Work program.

SW 4810 Research Methods, Data Analysis, and Practice Evaluation II Cr. 3
Continuation of S W 3810. Integration of descriptive and inferential statistics and components of quantitative and qualitative designs appropriate for evaluating service delivery and related policy. Offered Fall.
Prerequisite: SW 3810 with a minimum grade of D-
Restriction(s): Enrollment limited to students in the Bachelor of Social Work program.

SW 4990 Directed Study Cr. 1-4
Individual direction in reading and research on selected topics. Offered Every Term.
Restriction(s): Enrollment limited to students in the Bachelor of Social Work program.
Repeatable for 4 Credits

SW 4991 Special Topics in Social Work Cr. 1-4
Topics of current interest to be announced in Schedule of Classes . Offered Every Term.
Repeatable for 4 Credits

SW 4997 Integrative Seminar in Social Work Cr. 3
Satisfies General Education Requirement: Writing Intensive Competency
This capstone course provides a framework to assist students in reviewing, analyzing and integrating their theoretical knowledge with their practice experience. Students demonstrate that they have acquired the knowledge, skills, and values needed to be competent and ethical B.S.W. level generalist practitioners. Satisfies the General Education Writing Intensive requirement. Offered Fall, Winter.
Prerequisite: SW 4010 with a minimum grade of D- and SW 4998 (may be taken concurrently) with a minimum grade of M and SW 4020 (may be taken concurrently) with a minimum grade of M
Restriction(s): Enrollment limited to students in the Bachelor of Social Work program.

SW 4998 Field Practice in Social Work Cr. 5
The ratio of clock hours to credits is 46 to 1. Field practicum for senior-level students in the BSW program. Field placements assigned by the Coordinator of Field Education. Offered Every Term.
Restriction(s): Enrollment limited to students in the Bachelor of Social Work program.
Course Material Fees: $35
Repeatable for 10 Credits

SW 5720 Social Services for Older Adults Cr. 3
Identification, description and analysis of the problems associated with aging; development of social work services to address these needs. Offered Yearly.
Restriction(s): Enrollment limited to students with a class of Applicant Masters, Candidate Masters, Graduate Certificate, Senior or Post Bachelor.

SW 5755 Introduction to Child Welfare Cr. 3
Introduction and overview of child welfare services and practice with focus on a wide range of Issues related to children and youth in care and those in need of protection from abusive and/or neglectful caretakers and environments. Offered Yearly.
Restriction(s): Enrollment limited to students with a class of Applicant Masters, Candidate Masters, Unranked Grad, Graduate Certificate, Senior or Post Bachelor.

SW 6010 Family Centered Collaboration in Early Childhood Intervention and Special Education Cr. 3-4
Theories, concepts and practices of family centered intervention services for young children with special needs. Team-building and cross-disciplinary communication and collaboration with families. Offered Fall.
Restriction(s): Enrollment limited to students with a class of Applicant Masters, Candidate Masters, Unranked Grad, Graduate Certificate, Senior or Post Bachelor.
Equivalent: ELE 6010, PSY 6010

SW 6100 Child Welfare and Social Systems: Context for Case Management Practice Cr. 3
knowledge base for Child Welfare practice within the context of mental health, education, juvenile justice and other social systems with a significant focus on the social problems of domestic violence and substance abuse. Core case management intervention skill sets utilized for effective child welfare practice will be taught. Offered Every Term.
Restriction(s): Enrollment limited to students with a class of Applicant Masters, Candidate Masters, Unranked Grad, Graduate Certificate, Senior or Post Bachelor.

SW 6500 Social Work and the Law Cr. 2
Study of the relationship between law and social work practice. Emphasis on understanding the legal processes, the relationship and interdependence of law and social work practice and the knowledge and skill needed to help integrate law into social work practice. Offered Intermittently.
Restriction(s): Enrollment limited to students with a class of Applicant Masters, Candidate Masters, Unranked Grad, Graduate Certificate, Senior or Post Bachelor.

SW 6535 Youth, Delinquency, and Juvenile Justice Cr. 2-4
Provides an in depth understanding of the causes and implications of youth involved in the juvenile justice arena, focusing on assessments and social work interventions in a transcultural, multisystem context. Offered Intermittently.
Restriction(s): Enrollment limited to students with a class of Applicant Masters, Candidate Masters, Unranked Grad, Graduate Certificate, Senior or Post Bachelor.

SW 6540 Effects of Drugs and Alcohol on Physical and Social Functioning Cr. 3
Types of substances most frequently abused, their effects on physiological, psychological, social and physical functioning, and patterns of use among different age groups and populations. Offered Every Term.
Restriction(s): Enrollment limited to students with a class of Applicant Masters, Candidate Masters, Unranked Grad, Graduate Certificate, Senior or Post Bachelor.

SW 6575 Violence Prevention and Intervention Cr. 3
Addresses the ways that social work intervenes to prevent violent perpetration and reduce the harm associated with victimization by interpersonal violence such as youth violence, stalking, sexual violence, gun violence, relationship violence, bullying, and self-directed violence. Offered Fall.
Restriction(s): Enrollment limited to students with a class of Applicant Masters, Candidate Masters, Unranked Grad, Graduate Certificate, Senior or Post Bachelor.

SW 6585 Introduction to International Social Work Cr. 3
Introduction to global social work practice and international social welfare systems including discussion of global topics such as international adoption, immigrant populations, and human trafficking. Offered Fall.
Restriction(s): Enrollment limited to students with a class of Applicant Masters, Candidate Masters, Unranked Grad, Graduate Certificate, Senior or Post Bachelor.

SW 6700 Disabilities in Urban Society: Special Topics Cr. 3
Topics central to understanding living with disabilities across the life span in an urban society. Implications for persons with disabilities, their families and advocates, and their service providers. Offered for graduate credit only. Offered Fall.
Restriction(s): Enrollment limited to students with a class of Applicant Masters, Candidate Masters, Unranked Grad, Graduate Certificate, Senior or Post Bachelor.

SW 6740 Seminar in Disability Studies: Directed Study Cr. 3
Integration of theoretical and practical knowledge acquired in Graduate Certificate in Disabilities program within context of the discipline and area of interest of the student. Offered for graduate credit only. Offered Yearly.
Restriction(s): Enrollment limited to students with a class of Applicant Masters, Candidate Masters, Unranked Grad, Graduate Certificate, Senior or Post Bachelor; enrollment limited to students in the GC in Disabilities program.

SW 6750 Practicum in Disabilities: Research Topics Cr. 4
Supervision and direction of students as they apply their knowledge and skills in an interdisciplinary, service-oriented department. Work with professionals from other disciplines and consumers of disability-related services; development of leadership and teamwork skills. Offered for graduate credit only. Offered Yearly.
Restriction(s): Enrollment limited to students with a class of Applicant Masters, Candidate Masters, Unranked Grad, Graduate Certificate, Senior or Post Bachelor; enrollment limited to students in the GC in Disabilities program.

SW 6810 Lesbian, Gay, Bisexual, Transgender, Queer (LGBTQ) Health and Well-Being Cr. 1
Applies concepts from multiple frameworks to understand the health inequities of lesbian, gay, bisexual, transgender, and queer (LGBTQ) individuals. Offered Winter.
Restriction(s): Enrollment limited to students with a class of Applicant Masters, Candidate Masters, Unranked Grad, Graduate Certificate, Senior or Post Bachelor.

SW 6815 Mind-Body-Spirit Approaches and Social Work Practice Cr. 3
Explores the historical and cultural roots of mind-body-spirit approaches – often called complementary and alternative medicine, or integrative approaches – in contrast to the philosophical foundation of the western medical model; considers contemporary use and reviews multiple specific approaches; and presents research about their use and effectiveness. Considers application in micro, mezzo and macro social work practice. Offered Winter.
Restriction(s): Enrollment limited to students with a class of Applicant Masters, Candidate Masters, Unranked Grad, Graduate Certificate, Senior or Post Bachelor.

SW 6883 Social Work Practice with Very Young Children and Families Cr. 1
The relationship between theory, assessment and practice in the field of infant mental health. Course covers interventions for use with infants, toddlers and families, as well as the identification of appropriate interventions based upon the infant and family's needs, cultural histories and capacities. Offered Fall.
Restriction(s): Enrollment limited to students with a class of Applicant Masters, Candidate Masters, Unranked Grad, Graduate Certificate, Senior or Post Bachelor.

SW 6991 Special Topics in Social Work Cr. 1-4
Topics of current interest to be announced in Schedule of Classes. Offered Yearly.
Restriction(s): Enrollment limited to students with a class of Applicant Masters, Candidate Masters, Unranked Grad, Graduate Certificate, Senior or Post Bachelor.

SW 7010 Infant Mental Health Practice Cr. 1-2
Intervention strategies to enhance normal infant development as an aspect of parenting skills. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 2 Credits

SW 7025 Infant Mental Health: Theory to Practice across Early Childhood Settings Cr. 2
Theories and research-based information on infant mental health practices applied to various early childhood settings. Emphasis on interdisciplinary, relationship-based interventions aimed to promote development and learning in infants and young children. Offered Spring/Summer.
Restriction(s): Enrollment is limited to Graduate level students.

SW 7040 Methods of Social Work Practice Cr. 3
Basic theories and principles of practice including a strengths perspective with diverse individuals and families. Emphasis on basic values, roles, skills of generalist social work practice; and on ecological systems perspective and practice principles with at-risk and oppressed populations. Skills of empowerment to achieve individual and collective social and economic justice. Offered Fall.
Prerequisite: SW 7998 (may be taken concurrently) with a minimum grade of M
Restriction(s): Enrollment is limited to Graduate level students.

SW 7055 Foundation Group Theory and Practice Cr. 3
Ecological systems perspective used to critically assess influence of mezzo systems on human behavior and their consistency with social values and ethics. Use of strengths perspective with diverse groups within generalist practice. Group types, process, dynamics, leadership. Planning of groups, interventions, social and economic justice. Offered Winter.
Prerequisite: SW 7998 (may be taken concurrently) with a minimum grade of M
Restriction(s): Enrollment is limited to Graduate level students.

SW 7065 Foundation Macro Theory and Practice Cr. 3
Ecological systems perspective used to critically assess influence of macro system on human behavior and their consistency with social values and ethics. Generalist practice and strengths perspective. Practice with diverse communities and organizations, particularly at-risk populations. Needs assessment skills; promotion of macro change and social and economic justice in an urban context. Offered Winter.
Prerequisite: SW 7998 (may be taken concurrently) with a minimum grade of M and SW 7040 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

SW 7070 Bridge: Micro & Mezzo Practice and Theory Cr. 4
Integrative summer bridge for advanced standing students. Practice and theoretical principles guiding social work intervention at the micro and mezzo level will be reviewed; emphasis will be given to the impact of diversity and unique concerns of populations at risk. Offered Spring/Summer.
Prerequisites: May be taken concurrently: SW 7070
Corequisite: SW 7620
Restriction(s): Enrollment is limited to Graduate level students.

SW 7085 Social Work Leadership Strategies Cr. 3
Leadership theories, applications and skill development. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.

SW 7095 Social Entrepreneurship Cr. 3
Social entrepreneurs are change agents who challenge the status quo by using social enterprise and social innovation to address protracted social problems. This course is designed for students who want to explore social enterprise start-ups, as well as those students who are just curious about the field and want to learn more about entrepreneurship and explore career opportunities. Students will learn the requisite knowledge and skills to develop their own business feasibility plan that explores starting a new social venture, nonprofit or commercial enterprise. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students.

SW 7140 Biomedical Components of Substance Use and Addiction Cr. 3
An examination of the bio-psychosocial aspects of substance use, addiction and recovery. Provides a broad scientific perspective on different classes of drugs and misused substances. Focuses on understanding brain anatomy and mechanisms of action in the brain, genetic factors related to substance use and addiction, physiological effects of alcohol and drug misuse, and pharmacological interventions for recovery. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students.

SW 7150 Health Disparities and Substance Use Cr. 3
An introduction to health disparity frameworks and an overview of the unique problems and needs of diverse populations who misuse alcohol, tobacco and other drugs. Focuses on the application of culturally sensitive intervention and prevention strategies. Offered Spring/Summer.
Restriction(s): Enrollment is limited to Graduate level students.

SW 7560 Human Behavior in the Social Environment I: Micro Theory Cr. 3
Ecological systems perspective presented. Critical analysis of knowledge and theories of human development across the life span. Human behavior studied within the context of the social systems in which people live including families, peer groups, organizations and communities. Emphasis on how social systems promote and deter human development and the influence of diversity on human development. Focus on social work assessment. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.

SW 7570 Women's Roles and Issues in Contemporary Contexts Cr. 3
Web course. Focus on women's issues from the perspective of human behavior theory, practice theory (as it relates to human behavior), and policy. The historical, political, and socioeconomic forces that maintain gender inequities in society and in the practice of social work. Implications of environmental influences examined in terms of social justice, social work values, knowledge and skills, as well as in terms of the structural and systematic arrangement and delivery of social welfare services at the micro, mezzo, and macro levels. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.

SW 7620 Bridge: Social Welfare Policy, Research and Macro Practice Cr. 4
Integrative summer bridge course covers fundamental principles of social welfare policy, research and macro practice. Students develop a deeper understanding of how policy and research impacts social services, the community and vulnerable groups. Offered Spring/Summer.
Corequisite: SW 7070
Restriction(s): Enrollment is limited to Graduate level students.

SW 7660 Human Behavior in the Social Environment II: Diversity in a Multicultural Society Cr. 3
Emphasizes the interconnectedness of oppressions with a special focus on racism, sexism, heterosexism, ableism, and classism. Presents a conception of social justice and a framework for developing a social change orientation to combat discrimination, oppression, and economic deprivation and work toward social justice. Course uses the ecological systems perspective to understand human behavior within diverse families. Offered Winter.
Prerequisites: SW 7560 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

SW 7700 Trauma-Informed Child Welfare Practice Cr. 3
Introduces students to the core concepts informing evidence-based assessment and intervention for traumatized children and adolescents who are in the child welfare system. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students.

SW 7720 Introduction to Social Welfare Policy in the United States Cr. 3
Historical development of social welfare viewed dynamically as a function of social, economic, political and cultural transitions. Evolution of professional social work. Framework of analysis for social welfare policies, programs and agencies. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.

SW 7770 Palliative Care and Elder Law Cr. 3
Overview of palliative and hospice care, fundamentals of advanced care planning, and local and national laws and policies that concern older adults and their families. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.

SW 7820 Research Methods in Social Work I Cr. 3
First of two courses focused on basic concepts and methods of scientific inquiry as utilized in building knowledge for social work practice. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.

SW 7830 Research Methods in Social Work II Cr. 3
Second of two courses focused on basic concepts and methods of scientific inquiry as utilized in evaluating service delivery and in enhancing the performance of social work practitioners. Offered Yearly.
Prerequisites: SW 7820 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

SW 7880 Infant/Family Mental Health Assessment Cr. 2
Using a relationship-based model, assessments of infant and toddler socio-emotional development and parental health is emphasized. Interdisciplinary dialogue about the infant mental health perspective and the impact of culture. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.

SW 7990 Directed Study Cr. 1-4
Individual direction in reading and research on selected topics. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 4 Credits

SW 7995 Introduction to Gerontology Cr. 3
Required introductory course for Graduate Certificate in Gerontology. Multidisciplinary conceptual framework for study of gerontology. Students develop knowledge and skills needed to understand gerontological theory, research, and practice. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.

SW 7998 Concentration Field Work for Social Workers I Cr. 4-6
The ratio of clock hours to credits is 56.25 to 1. Practicum of M.S.W. program integrated with courses in social work method, human behavior and the social environment, social welfare organization and policy, and research. Field placements assigned by Coordinator of Field Education. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Social Work; enrollment is limited to students with a major in Social Work; enrollment limited to students in a Master of Social Work degree.
Course Material Fees: $35
Repeatable for 99 Credits

SW 7999 Master's Research Essay Direction Cr. 1-3
Two-semester course completed during the Advanced Year of the M.S.W. Program. Essay reflects an original synthesis of an already-published work, demonstrating a thorough understanding and mastery of a sub-area of social work, including the relevance of the problem and adequacy of intervention. Offered Fall, Winter.
Prerequisites: May be taken concurrently: SW 7810 with a minimum grade of C or SW 7830 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students with a class of Candidate Masters; enrollment limited to students in the Master of Social Work program.
Repeatable for 3 Credits

SW 8015 Intervention/Program Planning Cr. 3
Strategies and approaches to comprehensive program development within the context of community and organizational practice. Offered Winter.
Prerequisites: SW 7065 with a minimum grade of C or SW 7070 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

SW 8025 Community Assessment and Evaluation Cr. 1
The focus of this course is to prepare social workers to assess communities, organizations, neighborhoods, and other social groups through the use of empirically substantiated social science techniques. Using social justice-oriented, community-driven, data analysis, students will be able to contribute to an assessment and/or evaluation of any given community. Offered Winter.
Prerequisites: SW 7065 with a minimum grade of C or SW 7070 with a minimum grade of C and SW 7810 with a minimum grade of C or SW 7830 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

SW 8035 Techniques of Quantitative Data Analysis Cr. 1
Focus on advanced analytic techniques with quantitative data. Offered Winter.
Prerequisites: SW 7065 with a minimum grade of C or SW 7070 with a minimum grade of C and SW 7810 with a minimum grade of C or SW 7830 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

SW 8045 Techniques of Data Interpretation and Presentation Cr. 1
Presenting case, issue, or problem in context of public policy with a graphical presentation of data to a range of different audiences within the framework of social work values and ethics. Offered Winter.
Prerequisites: SW 7065 with a minimum grade of C or SW 7070 with a minimum grade of C and SW 7810 with a minimum grade of C or SW 7830 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

SW 8048 Social Action Research and Evaluation Cr. 3
Concepts, practices, and methodological approaches that are central to empowerment and action-oriented research and evaluation. Students are prepared to intervene into communities, institutions, neighborhoods, and other social groups through the use of empirically substantiated social science techniques. Offered Winter.
Prerequisites: SW 7065 with a minimum grade of C or SW 7070 with a minimum grade of C and SW 7810 with a minimum grade of C or SW 7830 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

SW 8065 Advanced Systems Theories and Practices Cr. 4
Applied systems approaches to achieve goals, explore planning, ensure fairness and social justice, and promote diversity. Offered Fall.
Prerequisites: SW 7065 or SW 7070 and May be taken concurrently: SW 8998
Restriction(s): Enrollment is limited to Graduate level students.

SW 8075 Theories and Practice of Community Building and Development Cr. 4
Best practice and theories on community development and engagement. Offered Fall.
Prerequisites: SW 7065 or SW 7070 and May be taken concurrently: SW 8998
Restriction(s): Enrollment is limited to Graduate level students.

SW 8085 Theories and Practice of Social Policy and Social Action Cr. 4
Theoretical frameworks and best practices to engage in social policy and social action. Offered Fall, Winter.
Prerequisites: May be taken concurrently: SW 8998 and SW 7065 or SW 7070
Restriction(s): Enrollment is limited to Graduate level students.

SW 8115 DSM in Clinical Social Work Practice Cr. 3
Reviews the classification, epidemiology, etiology and course of a range of mental and behavioral disorders across the life span. Emphasizes the critical analysis of existing and emerging theory and provides guidelines for the critical application and limitations of the DSM diagnostic assessment and classification system of mental and behavioral disorders in clinical social work practice. Offered Every Term.
Prerequisites: SW 7055 with a minimum grade of C or SW 7070 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

SW 8125 Therapeutic Storytelling with Children Cr. 1
Therapeutic storytelling as a means for expressing and resolving conflicts, disappointments, and anxieties in children. Strategies for assisting children in creating their own story-narratives, focusing on reciprocal, collaborative, and other forms of storytelling. Applications to a variety of childhood disorders and clinical situations. Offered Fall.
Prerequisites: SW 7055 with a minimum grade of C or SW 7070 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the Master of Social Work or PhD in Social Work programs.

SW 8180 Social Services in the Schools Cr. 3
Structure and history of education in relation to social work; implications of current legislation; identification of educational disabilities; programs and services to remediate disabilities and assist students. Offered Yearly.
Prerequisites: SW 7055 with a minimum grade of C or SW 7070 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

SW 8330 Psychosocial Assessment of Children and Youth Cr. 3
Holistic approach to assessment of children and youth; focus on various aspects of assessment including interpretation of psychological test data; social work administration of behavioral scales; observation; interpretation of drawings; socialized assessment areas such as ADHD and autism. Offered Yearly.
Prerequisites: SW 7055 with a minimum grade of C or SW 7070 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

SW 8340 Application of Cognitive-Behavioral Theories to Interpersonal Practice I Cr. 4
Building on the generalist foundation, this course furnishes cognitive-behavioral theories as background for understanding developmental derailments from birth through adulthood, and for structuring beginning stages of social work treatment. Focus on work with vulnerable populations. Offered Fall.
Prerequisites: SW 7070 or SW 7055 and May be taken concurrently: SW 8998
Restriction(s): Enrollment is limited to Graduate level students.

SW 8350 Application of Cognitive Behavioral Theories to Interpersonal Practice II Cr. 4
Continuation of S W 8340; cognitive behavioral and behavioral treatment approaches to the middle and termination phases of social work treatment. Focus on work with vulnerable populations. Offered Winter.
Prerequisites: SW 8340 and May be taken concurrently: SW 8998
Restriction(s): Enrollment is limited to Graduate level students.

SW 8360 Application of Psychodynamic Theories to Interpersonal Practice I Cr. 4
Building on the generalist foundation, this course furnishes an integrative framework for: intensive examination of psychodynamic theories of development from birth through adulthood; descriptive, etiological, and dynamic diagnosis of psychopathology; application to beginning phases of clinical social work treatment. Focus on work with vulnerable populations. Offered Fall.
Prerequisites: SW 7070 or SW 7055 and May be taken concurrently: SW 8998
Restriction(s): Enrollment is limited to Graduate level students.

SW 8370 Application of Psychodynamic Theories to Interpersonal Practice II Cr. 4
Continuation of S W 8360. Course offers a psychodynamic integrative framework for evaluation of children, adolescents and adults; emphasis on the middle and termination phases of the clinical social work treatment process. Focus on work with vulnerable populations. Offered Winter.
Prerequisites: SW 8360 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

SW 8380 Application of Family Systems Theory to Interpersonal Practice I Cr. 4
Overview of family systems theories as a foundation for diagnosing family problems and initiating treatment. Application of interpersonal practice theories in working with families throughout life cycle of family, from formation to termination; transitional phases experienced by its members; obstacles to normal growth and development. Practices employed by social workers in family practice field, application of working paradigm for interpersonal practice in a variety of settings. Offered Fall.
Prerequisites: SW 7070 or SW 7055 and May be taken concurrently: SW 8998
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Social Work.

SW 8390 Application of Family Systems Theory to Interpersonal Practice II Cr. 4
The major family therapy models and family theories in social work; incorporating an expanded view of recognizing biculturalism and a dual perspective of specific minorities (e.g., Arabs, Asians, Blacks, Hispanics, Native Americans and other subcultures). Advanced application of theories and conceptual frameworks for change to social work intervention with diverse family structures. Offered Winter.
Prerequisites: SW 8380 and May be taken concurrently: SW 8998
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Social Work.

SW 8550 Social Functioning: Human Sexuality Cr. 2
Human sexuality as it affects individuals in their relationships to others in terms of development, orientation and dysfunction. Offered Every Term.
Prerequisites: SW 7055 with a minimum grade of C or SW 7070 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

SW 8570 Dynamics and Intervention in Family Violence Cr. 3
Examination of child abuse, partner violence, and elder abuse; theories of causality; dynamics and effects on social functioning. Social work practice methods in family violence. Offered Fall.
Prerequisites: SW 7055 with a minimum grade of C or SW 7070 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

SW 8580 Impact of Health and Disease on Social Functioning: Implications for Social Work Practice Cr. 3
Study of biological, psychological, social, and environmental factors which influence health; social work interventions for at-risk populations in health care. Offered Fall.
Prerequisites: SW 7055 with a minimum grade of C or SW 7070 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

SW 8620 Interpersonal Practice with Couples Cr. 2
Application of interpersonal practice theories in couples therapy utilizing behavioral and social science content in relation to marriage and committed relationships, to the functional and dysfunctional aspects of marital and couple relationships, and their effects on the couple and other affected family members. Offered Yearly.
Prerequisites: SW 7055 with a minimum grade of C or SW 7070 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

SW 8690 Interpersonal Practice in Substance Abuse Cr. 3
Application of interpersonal practice theories to social work interventions with substance abuse related problems; procedures and strategies for assessment and planning; methods of intervention with individuals, families, and groups; prevention and education. Offered Yearly.
Prerequisites: SW 7055 with a minimum grade of C or SW 7070 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

SW 8710 Ethical Issues in Interpersonal Practice Cr. 2
Graduate seminar on social work as a profession. Articulation of professional practice issues in such areas as: competencies, standards, professional organization, social sanction, ethics, autonomy, accountability, inter-professional practice, social action. Offered Winter, Spring/Summer.
Prerequisites: SW 7055 with a minimum grade of C or SW 7070 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

SW 8770 Advanced Policy Analysis Cr. 3
Opportunity to conduct a policy analysis in an area of interest; e.g., welfare reform, corrections, homelessness, health, domestic violence. Offered Every Term.
Prerequisites: SW 7055 with a minimum grade of C or SW 7070 with a minimum grade of C and SW 7720 with a minimum grade of C or SW 7620 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

SW 8860 Grief and Loss Issues in Social Work Practice Cr. 3
Knowledge and skills needed to provide social work services to individuals, groups and families coping with a range of loss experiences, including those around death, dying and bereavement. Offered Fall, Winter.
Prerequisites: SW 7055 with a minimum grade of C or SW 7070 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

SW 8880 Infant Mental Health Practice Cr. 3
Advanced knowledge and skills in theory, assessment and practice in the field of infant mental health with emphasis on evidence-based practices. Offered Winter.
Prerequisite: SW 7025 with a minimum grade of C or SW 7880 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: SW 7010

SW 8883 Infant Mental Health Seminar I Cr. 2
Understanding and integration of knowledge and skills developed through courses and field placement experiences focused on infant mental health. Offered Fall.
Prerequisites: May be taken concurrently: SW 8998 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Social Work; enrollment limited to students in a Doctor of Philosophy or Master of Social Work degrees.

SW 8884 Infant Mental Health Seminar II Cr. 2
Supports Infant Mental Health Dual-Title students in the understanding and integration of knowledge and skills developed through courses and field placement experiences focused on infant mental health. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the School of Social Work; enrollment limited to students in a Doctor of Philosophy or Master of Social Work degrees.

SW 8991 Advanced Special Topics in Social Work Cr. 1-4
Topics of current interest for students in advanced year of M.S.W. program, Ph.D. program in social work or doctoral programs in related disciplines. Topics to be announced in Schedule of Classes. Offered Every Term.
Prerequisites: SW 7055 with a minimum grade of C or SW 7070 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

SW 8996 Group Project Research and Direction Cr. 1-4
Offered Every Term.
Prerequisites: May be taken concurrently: SW 7810 with a minimum grade of C or SW 7830 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

SW 8998 Concentration Field Work for Social Workers II Cr. 4-6
The ratio of clock hours to credits is 56.25 to 1. Practicum of M.S.W. program integrated with courses in social work method, human behavior and the social environment, social welfare organization and policy, and research. Field placements assigned by Coordinator of Field Education. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Social Work; enrollment limited to students in a Master of Social Work degree.
Course Material Fees: $35
Repeatable for 12 Credits

SW 8999 Master's Thesis Research and Direction Cr. 1-6
Offered Every Term.
Prerequisites: May be taken concurrently: SW 7810 with a minimum grade of C or SW 7830 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students with a class of Candidate Masters.
Repeatable for 6 Credits

SW 9000 Directed Study: Doctoral Cr. 1-6
Independent study under guidance of a faculty member. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the PhD in Social Work program.
Repeatable for 6 Credits

SW 9100 Social Statistics and Data Analysis Cr. 3
Application of univariate and bivariate statistics and analysis of variance to analyze data obtained from social work practice settings. Students learn to formulate appropriate research questions and hypotheses before data collection, to use SPSS to conduct analysis, and to interpret analyses and communicate findings to academics and practitioners. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.

SW 9210 Theories for Practice and Research with Individuals Cr. 3
Major theoretical systems currently used in clinical social work practices presently used with individuals, examined from six vantage points: model origin; conceptual framework; view of person-in-environment; philosophy of treatment; model effectiveness; practice controversies. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the PhD in Social Work program.

SW 9220 Theories for Practice and Research with Groups and Families Cr. 3
Theories, models and perspectives guiding social work practice with families. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the PhD in Social Work program.

SW 9230 Theories for Practice and Research with Communities and Organizations Cr. 3
Practice theory at the macro level. Two perspectives: how macro serves as a context of social work practice at levels of policy, community, organization; and theories of practice with macro systems. How a scholar imparts content and undertakes research at these levels. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the PhD in Social Work program.

SW 9240 Social Work Education Cr. 3
Standards, trends and issues of contemporary and future social work education. Critical analysis of articulation among bachelor's, master's, doctoral education. Emphasis on course development, designing effective learning experiences. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the PhD in Social Work program.

SW 9260 Current and Historical Trends in US Social Welfare Policy Cr. 3
Critical analysis in order to understand policy contexts that frame contemporary social work problems and practice. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.

SW 9300 Applied Regression Analysis and Generalized Linear Models Cr. 3
Classic regression models, generalized linear models, including weighted least-squares, hierarchical linear models, logistic regression. Using SPSS to analyze social work practice data; interpretation of findings; communication of findings to scholars and practitioners. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.

SW 9400 Qualitative Research Methods in Social Work Cr. 3
Examination of social work practice through case study, action research, and qualitative approaches to knowledge building. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the PhD in Social Work program.

SW 9410 Quantitative Research Methods in Social Work Cr. 3
Understanding and application of knowledge and skills in quantitative research methods aimed at increasing knowledge for social work practice and social welfare policy; clear, researchable questions; use of appropriate theory; selection of design; drawing of sample; and development of appropriate measures and operations within person-in-environment framework. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.

SW 9420 Research Practicum Cr. 3
Supervised hands-on research experience with a faculty member. Problem formulation, literature review, sample selection, sampling technique, formulation of design, development of instruments, data analysis, interpretation of results, writing a research report within the person-in-environment framework. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the PhD in Social Work program.

SW 9430 Dissertation Seminar Cr. 1
Development, presentation and critique of dissertation research questions, in context of social work practice or social welfare policy. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.

SW 9500 Advanced Clinical Social Work Theory Cr. 3
Broader and deeper mastery of several theories of development, personality, behavior, and psychopathology that have contributed to the knowledge base of social work. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.

SW 9510 Applied Clinical Social Work Practice I Cr. 3
Structured in part as a didactic seminar and in part as a continuous case conference, this year-long course offers a balanced emphasis on the rational, technical, and ethical aspects of social work treatment and clinical supervision. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.

SW 9520 Applied Clinical Social Work Practice II Cr. 3
Structured in part as a didactic seminar and in part as a continuous case conference, this year-long course offers a balanced emphasis on the rational, technical, and ethical aspects of social work treatment and clinical supervision. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students.

SW 9550 Advanced Clinical Practicum I Cr. 2
Practicum provides students with an intensive clinical placement experience in which they can further refine their clinical skills. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.

SW 9560 Advanced Clinical Practicum II Cr. 2
Practicum provides students with an intensive clinical placement experience in which they can further refine their clinical skills. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students.

SW 9697 Integrative Seminar in Social Work and Anthropology Cr. 3
Graduate-level integrative seminar that explores the intersection between social work and anthropology by critically analyzing relevant ethnographic scholarship. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the PhD in Social Work program.

SW 9990 Pre-Doctoral Candidacy Research Cr. 1-8
Preliminary research relevant to proposed area of dissertation research. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the PhD in Social Work program.
Repeatable for 12 Credits

SW 9991 Doctoral Candidate Status I: Dissertation Research and Direction Cr. 7.5
Dissertation research of a major social work or social welfare issue or problem. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the PhD in Social Work program.

SW 9992 Doctoral Candidate Status II: Dissertation Research and Direction Cr. 7.5
Dissertation research of a major social work or social welfare issue or problem. Offered Every Term.
Prerequisite: SW 9991 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the PhD in Social Work program.

SW 9993 Doctoral Candidate Status III: Dissertation Research and Direction Cr. 7.5
Dissertation research of a major social work or social welfare issue or problem. Offered Every Term.
Prerequisite: SW 9992 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the PhD in Social Work program.

SW 9994 Doctoral Candidate Status IV: Dissertation Research and Direction Cr. 7.5
Dissertation research of a major social work or social welfare issue or problem. Offered Every Term.
Prerequisite: SW 9993 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the PhD in Social Work program.

SW 9995 Candidate Maintenance Status: Doctoral Dissertation Research and Direction Cr. 0
Continuation of dissertation research. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in the PhD in Social Work program.
Course Material Fees: $370.26

SWA - SWAHILI

SWA 1010 Elementary Swahili I Cr. 4
Training in pronunciation, aural comprehension, oral and written expression. Supervised laboratory period for part of class preparation. Offered Fall.
Course Material Fees: $5

SWA 1020 Elementary Swahili II Cr. 4
Continuation of SWA 1010. Offered Winter.
Prerequisites: SWA 1010 with a minimum grade of D-
Course Material Fees: $5

SWA 2010 Intermediate Swahili Cr. 4
Satisfies General Education Requirement: Foreign Culture, Global Learning Inquiry
Conversational Swahili and grammar review; reading of Swahili literature. Continuation of SWA 1020. Offered Spring/Summer.
Prerequisites: SWA 1020 with a minimum grade of D-
Course Material Fees: $5

SYE - SYSTEMS ENGINEERING

SYE 5470 Creative Problem Solving in Design and Manufacturing Cr. 3
Concepts of laws of natural development of engineering systems. Algorithm for inventive (creative) problem-solving (AIPS-85). Creative use of physical and geometrical effects in design of mechanical and manufacturing systems. Concepts of strength, stiffness, vibratory effects, reliability in mechanical design. Offered Yearly.
Equivalent: IE 5490, ME 5470

TED - TEACHER EDUCATION

TED 2250 Becoming an Urban Educator Cr. 3
Examination of issues surrounding social justice in urban schools and society through the exploration of the historical, political, and social trends that influence education. Course includes a 40-hour service learning field experience. Offered Every Term.
Restriction(s): Enrollment limited to students in the College of Education.

TED 5150 Analysis of Elementary Teaching Cr. 3,5
Satisfies General Education Requirement: Writing Intensive Competency
Organization and management of classrooms. Lesson planning, teaching strategies and testing procedures. Work in classroom assigned by both an experienced public school teacher and a University faculty member. Offered Fall, Winter.
Restriction(s): Enrollment limited to students in the College of Education.
Course Material Fees: $29

TED 5650 Pre-Student Teaching Field Experience for Secondary Majors Cr. 5
Field experience in secondary school settings prior to full-time student teaching. Offered Fall, Winter.
Restriction(s): Enrollment limited to students in the College of Education.

TED 5780 Directed Teaching and Conference Cr. 1-12
Directed teaching in schools at level for which students are preparing for certification. Includes regular conference in which teaching methods in various fields are explored. Offered Fall, Winter.
Restriction(s): Enrollment limited to students in the College of Education.

TED 5790 Directed Teaching and Conference for Special Groups Cr. 1-15
Directed teaching in schools at level for which advanced students are preparing for certification; discussion of educational issues. For students seeking endorsements in special areas; for example: special education, early childhood, art. Students interested in completing general elementary and special education field experiences in the same semester should see advisor for eligibility requirements. Offered Fall, Winter.
Restriction(s): Enrollment limited to students in the College of Education.
Repeatable for 15 Credits

TED 6020 Computer Applications in Teaching I Cr. 3
Variety of hands-on experiences where technology is used as a tool to support instruction and assessment purposes in K-12 classrooms. Course activities introduce students to educational technology standards. Offered Every Term.

TED 6030 Computer Applications in Teaching II Cr. 3
Use of computing resources to develop problem-solving strategies and multimedia applications for students in specific K-12 curriculum areas. Offered Fall, Winter.
Prerequisite: TED 6020

TED 6140 Local School Curriculum Planning Cr. 1-6
For classroom teachers and teacher educators. Consideration of local problems in elementary and secondary school programs. Planning for better teaching and learning. Offered Intermittently.
Repeatable for 12 Credits

TED 6350 Analysis of Teaching in Urban Schools Cr. 3
Inquiry-based clinical course designed to provide the fundamental elements necessary for teacher candidates to work in high priority urban schools. Offered Spring/Summer.

TED 6370 Equity and Inclusion in Diverse Urban Education Settings Cr. 4
Clinical based course, using inclusive instructional practices for all students including, but not limited to, students with disabilities, English Language Learners, and special populations such as: at-risk, and gifted and talented in inclusive urban settings. Offered Fall.

TED 6380 Integrating Content Cr. 1-12
Current issues and trends related to integrating content areas; theory, methods, materials and strategies. Content areas announced in Schedule of Classes. Offered Yearly.
Repeatable for 12 Credits

TED 7000 Introductory Master's Seminar Cr. 2-3
Skill development in the three primary areas: information access through the variety of resources available in a university library; comprehension and evaluation of technical literature; employment of APA style in technical writing. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Graduate level students.

TED 7030 Foundations of Teaching and Learning Cr. 3
Theoretical foundations guiding classroom teaching and learning with applications to curricular and instructional practices and their implications for the experiences of children of cultural heritages. Offered Every Term.
Restriction(s): Enrollment limited to students in a Doctor of Education, Doctor of Philosophy, Education Specialist Cert or Master of Education degrees.

TED 7060 Inclusive Education, Curriculum and Pedagogy Cr. 3
This course has two emphases. First, it provides graduate students with foundational knowledge about the philosophy and sociology of inclusive education as it relates to students who are members of marginalized groups. Second, it provides students with opportunities to learn a basic framework for inclusive education, curriculum, and pedagogy. Offered Every Term.
Restriction(s): Enrollment limited to students in a Doctor of Education, Doctor of Philosophy, Education Specialist Cert or Master of Education degrees.
Course Material Fees: $3.5

TED 7800 Practicum in Curriculum Theory, Development, and Evaluation Cr. 1-5
Specific curriculum issues; linking theory and practice in educational settings. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 5 Credits

TED 7860 Social, Emotional and Aesthetic Perspectives on Curriculum and Instruction Cr. 3
Social, emotional and aesthetic perspectives on curriculum and instruction their significance for educational practice and student development. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.

TED 8100 Doctoral Seminar: Thought, Language, Power, Social Interaction and Learning Cr. 3
Examines the relationships between thought, language, power, and social interaction as they relate to teaching and learning. The seminal works of educational theorists who address these topics will be explored and applied to present day curricula and issues in education. This seminar will introduce socio-cultural theories and theorists and the influence their stances have had and continue to have on education across time and place. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Educational Studies.

TED 8150 Pro-Seminar I: Introduction to Research in Educational Studies Cr. 1
ntroduction to doctoral research in educational studies including: research and inquiry processes; educational issues and problems addressed by educational studies scholars; and tools of educational research. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Educational Studies.

TED 8200 Doctoral Seminar: Education in Socio-Political Culture Cr. 3
Investigates educational issues within the social, political, and cultural arena; examines mechanisms, policies, and practices that impact teaching and learning. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Educational Studies.

TED 8250 Pro-Seminar II: Introduction to Research in Educational Studies Cr. 1
Introduction to research in educational studies with emphasis on problem identification, literature review, and academic positions for educational researchers. Offered Winter.
Prerequisite: TED 8150 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Educational Studies.

TED 8270 Seminar: Issues in Curriculum and Instruction Cr. 2-6
For specialist and doctoral students. Analysis of basic issues in curriculum and instruction and their implications for program: early childhood, K-12, adult curricula. Critique of recent research and development efforts. Application to problems of leadership in school-wide curricular improvements. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 8 Credits

TED 8280 Research Seminar: Curriculum and Instruction I Cr. 3
Methods of research in curriculum and instruction. Critical review of types of research in curriculum and instruction. Research design. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students.

TED 8350 Basic Principles of Curriculum and Instruction Cr. 3
Theoretical bases of curricular development and instructional innovation. Their application to the tasks of the curriculum maker explored as various education positions are taken and examined. Offered Spring/Summer.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Educational Studies.

TED 8400 Issues in Urban Education Cr. 3
Explores urban issues of global, national, and regional importance in the field of curriculum and critical social inquiry from the perspective of those who are often the least served by current educational and social arrangements. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.

TED 8500 Integrating STEM Content Cr. 3
Current issues and trends related to integrating STEM content areas; theory, methods, materials, and strategies. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.

TED 8550 Doctoral Seminar: STEM Education and Research Cr. 3
Critical analysis of policy, theory, practice, and research in STEM education disciplines; Integrating STEM education deliberation, policymaking, practice, and research; Cultural/social/political and historical/contemporary bases of STEM education; Nodes of intersection of policies, theories, practice, and research as integrated STEM education. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Educational Studies.

TED 9130 Doctoral Seminar in Curriculum and Instruction Cr. 3
An examination of curriculum theory and concepts that apply to the development of content and instructional strategies relevant to contemporary education. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.

TED 9620 Doctoral Internship in Curriculum and Instruction Cr. 3-6
Planned and supervised professional field-based experience relevant to doctoral program and projected profession. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 6 Credits

THR - THEATRE

THR 1010 Introduction to the Theatre Cr. 3
Satisfies General Education Requirement: Cultural Inquiry, Visual Performing Arts
Historical, critical and cultural aspects of theatre and drama discussed relative to play attendance. No credit after THR 1111. Offered Every Term.
Course Material Fees: $60

THR 1030 Introduction to Black Theatre and Performance Cr. 3
Satisfies General Education Requirement: Diversity Equity Incl Inquiry, Visual Performing Arts
Origins, development, and current trends with production techniques and problems related to the special area of the drama. Offered Every Term.
Course Material Fees: $10

THR 1041 Musical Theatre Appreciation Cr. 3
Satisfies General Education Requirement: Cultural Inquiry, Visual Performing Arts
Survey of American musical theatre from its multiple historical origins to the present. Development of musical theatre understanding and critical observational skills through focus on the ways in which the genre has emerged through interactions between musical theatre artists and their audiences. Offered Fall, Winter.
Course Material Fees: $10

THR 1111 Fundamentals of Theatre Cr. 3
Introduction to the aesthetic principles of theatre as an art form: with special focus on the design principles and theatre spaces. Required for theatre majors. No credit after THR 1010. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Undergraduate level students.
Course Material Fees: $10

THR 1121 Play Analysis Cr. 3
Reading and structural analysis of plays. Selected nineteenth and twentieth century plays. Offered Winter.
Course Material Fees: $10

THR 1141 State of the Arts: Contemporary Creative Practices Cr. 3
Classroom and web-based survey of creative processes and practices in theatre, dance, visual arts, music and film, through readings from practitioners, interviews with visual and performing artists, and attending performances and exhibitions. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Undergraduate level students.
Course Material Fees: $15

THR 1211 Acting I Cr. 3
An introduction to the vocabulary of the stage, the process of acting, improvisation, and ensemble work. Offered Yearly.
Course Material Fees: $25

THR 1215 Acting II Cr. 3
Continuation of THR 1040 or THR 1211; scene study, improvisation in development of actor's craft. Offered Yearly.
Prerequisites: THR 1040 with a minimum grade of C or THR 1211 with a minimum grade of C
Restriction(s): Enrollment is limited to students with a major, minor, or concentration in Theatre or Theatre Honors; enrollment limited to students in a Bachelor of Fine Arts degree.
Course Material Fees: $25

THR 1411 Fundamentals of Crafts: Scenery and Costumes Cr. 3
An introduction to stagecraft techniques and practices used in the creation of scenery and costumes for the performing arts. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Undergraduate level students.
Course Material Fees: $45

THR 1451 Principles of Makeup Cr. 1
Fundamentals of theatre makeup. Laboratory projects coordinated with University Theatre productions. Offered Every Term.
Restriction(s): Enrollment is limited to students with a major, minor, or concentration in Theatre or Theatre Honors; enrollment limited to students in a Bachelor of Arts or Bachelor of Fine Arts degrees.
Course Material Fees: $30

THR 1461 Fundamentals of Crafts: Lighting and Stage Management Cr. 3
An introduction to stagecraft techniques and practices used in the performing arts for lighting, sound, and stage management. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Undergraduate level students.
Course Material Fees: $45

THR 2130 Stagecraft Cr. 3
Principles of scenic construction and painting. Types and utilization of stage scenery. Laboratory projects coordinated with University Theatre productions. Offered Every Term.
Restriction(s): Enrollment is limited to students with a major in Theatre or Theatre Honors; enrollment limited to students in a Bachelor of Arts or Bachelor of Fine Arts degrees; enrollment limited to students in the BA in Fine Arts or Bachelor of Fine Arts programs.
Course Material Fees: $30

THR 2211 Acting: Scene Study Cr. 3
Continuation of THR 1211 with concentration on working on a role; breakdown of text into actions, objectives, beats; sensory work through scene work. Offered Every Term.
Prerequisites: THR 1211 with a minimum grade of C or THR 1040 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students.
Course Material Fees: $25

THR 2220 Fundamentals of Voice and Movement Cr. 3
Basic explorations of movement and voice focusing on the experiential study of a variety of movement and vocal techniques in order to expose the student to differing approaches and styles of voice and movement work that are commonly practiced in contemporary theatre. Offered Every Term.
Prerequisites: THR 1211 with a minimum grade of C or THR 1040 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students.
Course Material Fees: $25

THR 2221 Stage Movement I Cr. 2
Introduction to the principles, practices, and exercises in body technique and stage movement. Offered Fall.
Restriction(s): Enrollment is limited to students with a major, minor, or concentration in Theatre or Theatre Honors; enrollment limited to students in a Bachelor of Fine Arts degree.
Course Material Fees: $50

THR 2231 Voice Lab I Cr. 2
Introduction to vocal production. Emphasis on relaxation, breathing techniques, and the production of vocal sounds. Offered Fall.
Restriction(s): Enrollment is limited to students with a major, minor, or concentration in Theatre or Theatre Honors; enrollment limited to students in a Bachelor of Fine Arts degree.
Course Material Fees: $25

THR 2251 Musical Theatre Performance I Cr. 3
Studio course; examining styles of musical theatre performance; applying acting techniques to interpret styles throughout the era of musical theatre. Offered Fall.
Restriction(s): Enrollment is limited to Undergraduate level students.
Course Material Fees: $25

THR 2255 Musical Theatre Performance II Cr. 3
Studio course; continuation of THR 2251 or THR 2320. Offered Fall.
Restriction(s): Enrollment is limited to Undergraduate level students.
Course Material Fees: $50

THR 2301 Introduction to Design for the Theatre Cr. 3
Methods and materials laboratory course. Practical exercises. Prerequisite to stage, costume or lighting design; techniques of costume, lighting design; rendering, drafting, perspective, color, and design. Offered Fall.
Prerequisites: THR 1010 with a minimum grade of C or THR 1111 with a minimum grade of C
Course Material Fees: $30

THR 2580 Theatre Laboratory Cr. 1
Supervised laboratory in technical and managerial facets of theatre in production. Offered Every Term.
Restriction(s): Enrollment is limited to students with a major, minor, or concentration in Theatre or Theatre Honors.
Course Material Fees: $60
Repeatable for 3 Credits

THR 2581 Theatre Studio - Performance Cr. 1
Supervised studio in theatre performance requiring participation in department productions. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Undergraduate level students.
Course Material Fees: $70
Repeatable for 3 Credits

THR 2582 Theatre Studio - Scenery/Lighting Cr. 1
Supervised studio in scenery and lighting techniques applied to department productions. Offered Fall, Winter.
Prerequisites: THR 1411 with a minimum grade of D- and THR 1461 with a minimum grade of D-
Restriction(s): Enrollment is limited to Undergraduate level students.
Course Material Fees: $70
Repeatable for 3 Credits

THR 2583 Theatre Studio - Costumes Cr. 1
Supervised studio in theatrical costuming applied to department productions. Offered Fall, Winter.
Prerequisites: THR 1411 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students.
Course Material Fees: $70
Repeatable for 3 Credits

THR 2584 Theatre Studio - Stage Management Cr. 1
Supervised studio in stage management applied to department productions. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Undergraduate level students.
Course Material Fees: $70
Repeatable for 3 Credits

THR 2585 Theatre Studio - Theatre Management Cr. 1
Supervised studio in theatre management as applied to department productions. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Undergraduate level students.
Course Material Fees: $70
Repeatable for 3 Credits

THR 2586 Theatre Studio - Running Crew Cr. 1
Supervised studio in theatre production for back stage crew and/or wardrobe crew applied to department productions. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Undergraduate level students.
Course Material Fees: $70
Repeatable for 3 Credits

THR 2587 Theatre Studio - Production Cr. 1
Supervised studio as a unique production crew or technical assignments (projection designer, puppeter, automation specialist, etc.) required in a department production. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Undergraduate level students.
Course Material Fees: $70
Repeatable for 3 Credits

THR 2611 Stage Management Cr. 3
Study of activities except acting that take place on stage or backstage during a technical performance and during rehearsal period. Offered Every Term.
Prerequisites: THR 1111 with a minimum grade of C or THR 1010 with a minimum grade of C
Course Material Fees: $20

THR 2651 Introduction to Life Skills for the Creative Entrepreneur Cr. 3
Satisfies General Education Requirement: Quantitative Experience Comp
An introduction to the quantitative and analytical skills utilized by successful entreprenuers. Topics include: fund management, financial management, contracts, development, and marketing. This course is intended for all students preparing for a career as an independent entrepreneur, business person, artist, creator, musician, writer, and any others seeking self-determined professional opportunities. Offered Every Term.

THR 3211 Acting III Cr. 3
Study and exercise in the fundamentals of the actor's craft. Emphasis on the development of the actor's inner resources as applied to dramatic action, and consideration of basic stage techniques. Offered Fall.
Restriction(s): Enrollment is limited to students with a major, minor, or concentration in Theatre or Theatre Honors; enrollment limited to students in a Bachelor of Fine Arts degree.
Course Material Fees: $25

THR 3215 Acting IV Cr. 3
Development of the techniques and basic principles of character building. Emphasis on the development of a role through script, exercises and scene work. Offered Winter.
Prerequisites: THR 2030 with a minimum grade of D-
Restriction(s): Enrollment is limited to students with a major, minor, or concentration in Theatre or Theatre Honors; enrollment limited to students in a Bachelor of Fine Arts degree.
Course Material Fees: $25

THR 3221 Stage Movement II Cr. 2
Continuation of THR 2010 or THR 2221. Emphasis on character movement. Offered Winter.
Prerequisites: THR 2010 with a minimum grade of D- or THR 2221 with a minimum grade of D-
Restriction(s): Enrollment is limited to students with a major, minor, or concentration in Theatre or Theatre Honors; enrollment limited to students in a Bachelor of Fine Arts degree.
Course Material Fees: $25

THR 3225 Stage Movement III Cr. 2
Styles of stage movement: Commedia, Moliere, Restoration. Emphasis on period deportment, manners, and dance forms. Offered Fall.
Prerequisites: THR 2020 with a minimum grade of C or THR 3221 with a minimum grade of C
Restriction(s): Enrollment is limited to students with a major, minor, or concentration in Theatre or Theatre Honors; enrollment limited to students in a Bachelor of Fine Arts degree.
Course Material Fees: $25

THR 3231 Voice Lab II Cr. 2
Continuation of vocal production work and an introduction to consonant sounds. Offered Yearly.
Prerequisites: THR 2110 with a minimum grade of D- or THR 2231 with a minimum grade of D-
Restriction(s): Enrollment is limited to students with a major, minor, or concentration in Theatre or Theatre Honors; enrollment limited to students in a Bachelor of Fine Arts degree.
Course Material Fees: $25

THR 3235 Voice Lab III Cr. 2
Continuation of vocal and articulation work and an introduction to rhythm and tempo in the speaking voice. Offered Winter.
Prerequisites: THR 2170 with a minimum grade of C or THR 3231 with a minimum grade of C
Restriction(s): Enrollment is limited to students with a major, minor, or concentration in Theatre or Theatre Honors; enrollment limited to students in a Bachelor of Fine Arts degree.
Course Material Fees: $25

THR 3241 Dance Styles of Musical Theatre Cr. 3
Tap, jazz and dance of the American musical theatre tradition. Emphasis on skills for performing and auditioning for Broadway and movie musicals. Offered Yearly.
Course Material Fees: $25
Repeatable for 6 Credits

THR 3341 Design Skills - Digital I Cr. 2
Students will gain a working knowledge of the fundamental concepts and features needed to master a set of software programs widely used by theatre design practitioners. Focus includes programs within the Adobe Suite - Adobe Photoshop, Illustrator and After Effects - that can become integral tools in the working processes of set, costume, lighting and projection designers. Offered Fall.

THR 3411 Technical Production Cr. 3
Approach to technical design challenges in scenery, costuming, lighting, digital media, and sound. Offered Fall.
Prerequisite: THR 1411 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students.
Course Material Fees: $45

THR 3561 WSU Touring Theatre Cr. 1
Offered Every Term.
Repeatable for 6 Credits

THR 3570 Technical Theatre Problems Cr. 2
Participation in theatre productions as stage manager or assistant stage manager. Offered Every Term.
Restriction(s): Enrollment is limited to students with a major, minor, or concentration in Theatre or Theatre Honors; enrollment limited to students in a Bachelor of Fine Arts degree.
Course Material Fees: $40
Repeatable for 8 Credits

THR 3581 Advanced Theatre Studio - Performance Cr. 1
Supervised studio in theatre performance requiring participation in department productions. Written permission of Instructor or academic advisor required. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Undergraduate level students.
Course Material Fees: $70
Repeatable for 6 Credits

THR 3582 Advanced Theatre Studio - Scenery/Lighting Cr. 1
Supervised studio in theatrical scenery and lighting techniques applied to department productions. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Undergraduate level students.
Course Material Fees: $70
Repeatable for 6 Credits

THR 3583 Advanced Theatre Studio - Costumes Cr. 1
Supervised laboratory in theatrical costuming applied to department productions. Written permission of Instructor or academic advisor required. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Undergraduate level students.
Course Material Fees: $70
Repeatable for 6 Credits

THR 3584 Advanced Theatre Studio - Stage Management Cr. 1
Supervised studio in stage management applied to department productions. Written permission of Instructor or academic advisor required. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Undergraduate level students.
Course Material Fees: $70
Repeatable for 6 Credits

THR 3585 Advanced Theatre Studio - Theatre Management Cr. 1
Supervised studio in theatre management applied to department productions. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Undergraduate level students.
Course Material Fees: $70
Repeatable for 6 Credits

THR 3586 Advanced Theatre Studio - Running Crew Cr. 1
Supervised laboratory as back stage crew and/or wardrobe crew for department productions. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Undergraduate level students.
Course Material Fees: $70
Repeatable for 6 Credits

THR 3587 Advanced Theatre Studio - Production Cr. 1
Supervised studio as unique production crew or technical assignment (projection designer, puppeteer, automation engineer, etc.) in a department production. Offered Fall, Winter.
Restriction(s): Enrollment is limited to Undergraduate level students.
Course Material Fees: $70
Repeatable for 6 Credits

THR 3651 Principles of Theatre Management Cr. 3
Introduction to the principles and practices of theatre management. Season selection, advertising, budgeting, marketing and fundraising are among the areas to be covered. Offered Yearly.
Course Material Fees: $20

THR 3671 Theatre Management: Marketing and Public Relations Cr. 3
Methods and approaches used by Theatre Management professionals to communicate their mission, events, and productions. Offered Winter.
Restriction(s): Enrollment is limited to Undergraduate level students.
Course Material Fees: $10

THR 3675 Theatre Management: Marketing Design and Layout Cr. 3
Techniques and practices for design and layout specifically addressing the needs in Theatre and Arts Marketing; programs, posters, billboards, brochures, and web pages Offered Winter.
Restriction(s): Enrollment is limited to Undergraduate level students.
Course Material Fees: $10

THR 3681 Theatre Management: Patron Services and Development Cr. 3
Methods and approaches used by Theatre Management professionals to create and maintain meaningful relationships with patrons and audience. This class will emphasize oral communication skills supported by simple use of practices found in the theatre industry Offered Winter.
Restriction(s): Enrollment is limited to Undergraduate level students.
Course Material Fees: $10

THR 3711 World Performance Studies I Cr. 3
Research/studio course examining styles of the late twentieth century to the present; includes spoken word, dance, and multi-media performance art. Introduction to directors and performers such as: Robert Wilson, Spalding Gray, Sekou Sundiata, Robert LePage, Peter Brook. Emphasis on creating ensemble performance work. Offered Fall.

THR 3715 World Performance Studies II Cr. 3
Advanced research/studio. Emphasis on solo works and their makers; may include Anna Deveare Smith, Eric Bogosian, Laurie Anderson. Creation of solo performances. Offered Winter.

THR 3731 Applied Theatre Studies: Community Possibilities Cr. 3
Fundamental theory and practical technique of applied theatre work, especially process drama and playbuilding. Focus on community situations including intergenerational dynamics, community health and social work effectiveness, and areas of outreach involvement. Offered Yearly.
Course Material Fees: $10

THR 3735 Applied Theatre Studies: Theatre in Education Cr. 3
Fundamentals of applied theatre work, especially story drama, process drama, and theatre-in-education (TIE). Focus on the artist as teacher; the visiting artist in the classroom, after-school drama programming, performing as a member of a TIE team. Offered Yearly.

THR 3738 Applied Theatre Practicum Cr. 1-4
Supervised students work in schools, with youth programs, and in community service settings, implementing applied theatre projects. Offered Yearly.
Repeatable for 8 Credits

THR 3811 Africana Theatre and Dance: Concepts and Practices Cr. 3
Exploration of the interdisciplinary and global reach of black performance in theatre and dance; examination of key concepts through the analysis of performance and popular culture with scholarly and creative texts by scholars, activists, and artists from the Black Diaspora. Offered Winter.
Restriction(s): Enrollment is limited to Undergraduate level students.
Course Material Fees: $10

THR 3990 Directed Study Cr. 1-3
Offered Every Term.
Restriction(s): Enrollment is limited to students with a major in Theatre or Theatre Honors.
Repeatable for 9 Credits

THR 4211 Acting V Cr. 3
Theories and methods of acting verse drama. Offered Fall.
Prerequisites: THR 2040 with a minimum grade of D-
Restriction(s): Enrollment is limited to students with a major, minor, or concentration in Theatre or Theatre Honors; enrollment limited to students in a Bachelor of Fine Arts degree.
Course Material Fees: $25
Repeatable for 6 Credits

THR 4221 Stage Movement IV Cr. 2
Styles of stage movement: Shakespeare. Emphasis on Renaissance deportment, manners, and dance forms. Offered Winter.
Prerequisites: THR 3020 with a minimum grade of C
Restriction(s): Enrollment is limited to students with a major, minor, or concentration in Theatre or Theatre Honors; enrollment limited to students in a Bachelor of Fine Arts degree.
Course Material Fees: $25

THR 4231 Voice Lab IV Cr. 2
Continuation of vocal articulation and vocal music techniques; harmonizing them in performance. Offered Yearly.
Prerequisites: THR 3080 with a minimum grade of C or THR 3235 with a minimum grade of C
Restriction(s): Enrollment is limited to students with a major, minor, or concentration in Theatre or Theatre Honors; enrollment limited to students in a Bachelor of Fine Arts degree.
Course Material Fees: $25

THR 4271 Acting for the Camera Cr. 3
Acting technique and practice with an emphasis on developing the technical and emotional adjustments required for success in Film, TV and industry acting. Units include adjusting theatre acting technique for Film and TV; learning to ""hit marks"" and to understand frame sizes; and developing video auditions. Offered Fall.
Restriction(s): Enrollment is limited to Undergraduate level students.
Course Material Fees: $25

THR 4995 Theatre Capstone: Performance Cr. 3
Capstone experience for B.F.A. acting students. The course focuses on transitioning into the profession, including: auditioning approaches and techniques; showcase preparation and presentation; and developing a personal professional resume and electronic portfolios. Offered Winter.
Prerequisite: THR 4211 with a minimum grade of C
Restriction(s): Enrollment limited to students with a class of Senior; enrollment is limited to students with a major in Theatre.

THR 4996 Theatre Capstone: Design and Technology Cr. 3
Capstone experience for B.F.A. design tech students. The course focuses on transitioning into the profession, including: auditioning approaches and techniques; showcase preparation and presentation; and developing a personal professional resume and electronic portfolios. Offered Winter.
Prerequisite: THR 4211 with a minimum grade of C
Restriction(s): Enrollment limited to students with a class of Senior; enrollment is limited to students with a major in Theatre.

THR 4997 Theatre Capstone Experience Cr. 3
Development of a personal electronic portfolio demonstrating computer proficiency. Offered Winter.
Restriction(s): Enrollment limited to students with a class of Senior; enrollment is limited to students with a major in Theatre or Theatre Honors; enrollment limited to students in a Bachelor of Arts degree; enrollment limited to students in the BA in Fine Arts program.

THR 4998 Capstone Honors Thesis Cr. 3
Satisfies General Education Requirement: Honors Section
Culminating project for theatre honors students: research for scholarly/creative activity. Offered Spring/Summer.
Prerequisite: (THR 3410 (may be taken concurrently) with a minimum grade of C or THR 3460 (may be taken concurrently) with a minimum grade of C or THR 3030 (may be taken concurrently) with a minimum grade of C or THR 3731 (may be taken concurrently) with a minimum grade of C or THR 3735 (may be taken concurrently) with a minimum grade of C)
Restriction(s): Enrollment limited to students with a class of Senior; enrollment is limited to students with a major in Theatre Honors; enrollment limited to students in a Bachelor of Arts or Bachelor of Fine Arts degrees; enrollment limited to students in the BA in Fine Arts or Bachelor of Fine Arts programs.

THR 5121 Active Analysis for Actors, Directors, and Designers Cr. 3
Instruction in the Method of Active Analysis, which comprised the final work of Konstantin Stanislavsky on rehearsal, performance, and production. The course is intended for actors and designers as well as directors. Lectures, readings, discussions, and practical work leading toward staging of scenes. Offered Yearly.

THR 5301 Design Skills - Drafting I Cr. 3
Specific instruction in theatrical drafting techniques, including hand drafting and the use of 2D AutoCAD in the drafting of theatrical scenery and lighting. Offered Fall.

THR 5311 Stage Design Cr. 3
The scenic designer's multiple analysis of a play. Practice in evolving a technique of scenic design by study of selected plays with execution of sketches and working drawings. Offered Intermittently.
Prerequisite: THR 1411 with a minimum grade of C
Course Material Fees: $30
Repeatable for 6 Credits

THR 5315 Advanced Stage Design Cr. 3
Studio theory course in stylistic characteristics of modern stage designs. Advanced problems in scenic design. Offered Intermittently.
Prerequisites: THR 5080 with a minimum grade of C or THR 5311 with a minimum grade of C
Course Material Fees: $30
Repeatable for 6 Credits

THR 5321 Theatre Costuming I Cr. 3
Studio projects coordinated with University Theatre productions. Offered Fall.
Prerequisite: THR 1411 with a minimum grade of C
Restriction(s): Enrollment is limited to students in the Department of Theatre and Dance.
Course Material Fees: $30

THR 5325 Entertainment Design - Costume I Cr. 2
Advanced costume design projects concentrating on the expression of character through design principles. Further development of drawing and rendering skills. Offered Every Other Winter.
Prerequisite: THR 5010 with a minimum grade of C or THR 5321 with a minimum grade of C
Course Material Fees: $30

THR 5331 Stage Lighting Cr. 3
Theory and practice in stage lighting. Examination of lighting in composition and the aesthetics of light through projects in the stage lighting laboratory. Discussion of applications of lighting instrumentation and control equipment to theatrical production. Participation in lighting University Theatre productions is required. Offered Fall.
Prerequisite: THR 1461 with a minimum grade of C
Course Material Fees: $45

THR 5335 Advanced Stage Lighting Design Cr. 3
Examination of situations and responsibilities encountered in professional lighting design. Project work based on large-scale, complex requirements. Offered Intermittently.
Prerequisites: THR 5070 with a minimum grade of C or THR 5331 with a minimum grade of C
Course Material Fees: $45

THR 5422 Introduction to Scene Painting Cr. 3
Studio and demonstration course as an introduction to painting for the stage, with an emphasis on the materials, texturing techniques, three-dimensional effects and the beginning work from painter's elevations. Offered Intermittently.
Course Material Fees: $70

THR 5426 Advanced Scene Painting Cr. 3
Studio and demonstration course for the design or technical theatre student. Materials, techniques, styles of scene painting. Offered Intermittently.
Prerequisite: THR 5422 with a minimum grade of C or THR 5140 with a minimum grade of C
Course Material Fees: $70

THR 5451 Advanced Stage and Film Makeup Cr. 2
Continuation of basic principles applied in THR 3050 or THR 1451; emphasis on new makeup materials; experimentation with prosthesis and design for problem makeup. Offered Intermittently.
Prerequisite: THR 3050 with a minimum grade of C or THR 1451 with a minimum grade of C
Restriction(s): Enrollment is limited to students in the Department of Theatre and Dance.
Course Material Fees: $15

THR 5640 Introduction to Accounting for Nonprofit Organizations Cr. 2
Introduction to accounting for nonprofit organizations. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students.

THR 5651 Case Writing of Creative Ventures Cr. 3
Team activity of researching and writing a business case study for an organization in the Detroit region that is engaged in a service learning activity with community and/or University partners. Offered Fall, Winter.

THR 5711 Play Direction Cr. 3
Principles and theories of stage movement, blocking, casting, rehearsing. Students required to direct scenes and one-act plays for class presentation. Offered Fall.
Course Material Fees: $25

THR 5721 Playwriting Cr. 3
Introduction to the craft of writing for the stage. Students required to write a full-length dramatic script. Offered Every Other Year.
Restriction(s): Enrollment is limited to students in the Department of Theatre and Dance.
Course Material Fees: $10

THR 5731 Applied Theatre Studies: Community Possibilities Cr. 3
Fundamental theory and practical technique of applied theatre work, especially process drama and play-building. Focus on community situations including intergenerational dynamics, community health and social work effectiveness, and areas of outreach involvement. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.

THR 5735 Applied Theatre Studies: Theatre in Education Cr. 3
Fundamentals of applied theatre work, especially story drama, process drama, and theatre-in-education (TIE). Focus on the artist as teacher; the visiting artist in the classroom, after-school drama programming, performing as a member of a TIE team. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.

THR 5738 Applied Theatre Practicum Cr. 1-4
Supervised students work in schools, with youth programs, and in community service settings, implementing applied theatre projects. Offered for graduate credit only. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 8 Credits

THR 5751 Study Abroad: Moscow Art Theatre School Cr. 1-3
Satisfies General Education Requirement: Global Learning Inquiry
Intensive training in acting or another branch of theatre. Study is conducted on-site at the Moscow Art Theatre School, Moscow, Russia. Offered Spring/Summer.
Repeatable for 3 Credits

THR 5755 Study Abroad: Directed Study in Russian Theatre Cr. 1-3
Focused studies on Russian theatre, performance, design and production; directed studies in contemporary Russian. Offered Spring/Summer.
Prerequisite: THR 5600 (may be taken concurrently) with a minimum grade of C or THR 5751 (may be taken concurrently) with a minimum grade of C

THR 5811 Development of the Drama I: Greek to Eighteenth Century Cr. 3
Plays from the Greek through the eighteenth century, including Shakespeare; relation of drama to an era and its theatre. Offered Fall.
Course Material Fees: $10

THR 5812 Development of the Drama II: Nineteenth Century to Modern Cr. 3
Plays and theories of the theatre from the nineteenth century to modern times; relation of drama to an era and its theatre. Offered Winter.
Course Material Fees: $10

THR 5821 Black Dramatic Literature and Performance Cr. 3
Satisfies General Education Requirement: Diversity Equity Incl Inquiry
Critical study of significant Black dramatists of the American stage: Willis Richardson, Marita Bonner, Randolph Edmonds, Langston Hughes, Alice Childress, Lorraine Hansberry, Ed Bullins, Amiri Baraka, Ntozake Shange, and August Wilson. Offered Yearly.
Course Material Fees: $10
Equivalent: AFS 5220

THR 5831 Pioneers of the Modern Theatre Cr. 3
Readings and discussions about key figures in modern theatre, dance, and performance theory. Offered Every Other Year.
Course Material Fees: $10

THR 5841 Theatre History I Cr. 3
The development of the physical theatre and the evolution of production methods in Greek, Medieval, Renaissance, and English Restoration theatres with the correlation of the cultural environment of each period. Offered Fall.
Course Material Fees: $10

THR 5842 Theatre History II Cr. 3
Continuation of THR 5100 or THR 5841. Theatre from English and continental eighteenth century to contemporary European and American theatres. Offered Winter.
Prerequisites: THR 5100 with a minimum grade of C or THR 5841 with a minimum grade of C
Course Material Fees: $10

THR 5993 Writing Intensive Course in Theatre Cr. 0
Satisfies General Education Requirement: Writing Intensive Competency
Disciplinary writing assignments under the direction of a faculty member. Must be selected in conjunction with a designated corequisite; see section listing in Schedule of Classes for corequisites available each term. Satisfies the University General Education Writing Intensive Course in the Major requirement. Required for all majors. Offered Every Term.
Prerequisites: May be taken concurrently: THR 5811 or THR 5812 or AFS 2390 with a minimum grade of C or ENG 2390 with a minimum grade of C or ENG 3010 with a minimum grade of C or ENG 3020 with a minimum grade of C or ENG 3050 with a minimum grade of C
Restriction(s): Enrollment is limited to Undergraduate level students; enrollment is limited to students with a major in Theatre or Theatre Honors; enrollment limited to students in a Bachelor of Arts or Bachelor of Fine Arts degrees.

THR 5995 Special Topics in Theatre Cr. 1-3
Specialized studies in theatre performance, history, criticism, management, design, and technology. Topics to be announced in Schedule of Classes. Offered Every Term.
Restriction(s): Enrollment is limited to students in the Department of Theatre and Dance.
Repeatable for 6 Credits

THR 6211 Acting Studio I: Fundamentals of the Stanislavski System Cr. 2
Open only to Hilberry Company members in the M.F.A. Acting Program. Offered for graduate credit only. A study of the Method of Active Analysis through Physical Action, a post-1991 understanding and practice of the teachings of Konstantin Stanislavski. Subject matter to be chosen from modern texts - Anton Chekhov through Eugene O'Neill. Offered Fall.
Restriction(s): Enrollment is limited to students in the Department of Theatre and Dance; enrollment limited to students in a Master of Fine Arts degree.
Course Material Fees: $25

THR 6215 Acting Studio II: Introduction to the Michael Chekhov Cr. 2
Understanding and application of the principles and tools of the Technique: Psycho-physical approach; Imagination and Incorporation of Images; Improvisation and Ensemble work; Atmosphere; and Psychological Gesture. Subject matter to be chosen from the plays of William Shakespeare. Clues from First Folio renditions of the plays will be identified on all analysis assignments. Offered Winter.
Prerequisite: THR 6211 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $25

THR 6221 Theatrical Movement I - Introduction to Physical Awareness Cr. 1
Pilates Method of body conditioning; learning and perfecting movements of the body at beginning and intermediate levels. Offered Fall.
Restriction(s): Enrollment is limited to students with a major, minor, or concentration in Theatre; enrollment limited to students in a Master of Fine Arts degree.
Course Material Fees: $15

THR 6225 Theatrical Movement II - Introduction to Movement Analysis Cr. 1
Yoga; Laban Movement Analysis for analyzing and further strengthening the body. Offered Winter.
Prerequisite: THR 6070 with a minimum grade of C or THR 6221 with a minimum grade of C
Restriction(s): Enrollment is limited to students in the Department of Theatre and Dance; enrollment limited to students in a Master of Fine Arts degree.
Course Material Fees: $25

THR 6231 Voice and Speech I - Foundations of Voice for the Actor Cr. 1
Studies in vocal physiology and production using Fitzmaurice, Linklater, and Lessac techniques. Offered for graduate credit only. Offered Fall.
Restriction(s): Enrollment is limited to students in the Department of Theatre and Dance; enrollment limited to students in a Master of Fine Arts degree.
Course Material Fees: $15

THR 6235 Voice and Speech II: Speech Foundations Cr. 1
Studies in speech and phonetics through physiology, articulatory improvement, and phonetics with application to text. Offered for graduate credit only. Offered Winter.
Prerequisite: THR 6050 with a minimum grade of C or THR 6231 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students in the Department of Theatre and Dance; enrollment limited to students in a Master of Fine Arts degree.
Course Material Fees: $25

THR 6301 Foundations of Graduate Design Cr. 2
Introduction to the design process and expectations for graduate-level study in theatrical design. Review of responsibilities of each portion of design team, examination of traditional and electronic methods of research. Offered Fall.
Restriction(s): Enrollment is limited to students in the Department of Theatre and Dance; enrollment limited to students in a Master of Fine Arts degree.

THR 6303 Design Skills - Drafting II Cr. 3
Continuation of THR 5301 Design Skills – Drafting 1 for graduate students. Specific instruction in theatrical drafting techniques using the 3 dimensional capabilities of AutoCAD. Offered Winter.
Prerequisite: THR 5301 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

THR 6306 Design Skills - Drawing Cr. 1
Provides each design student with the opportunity to strengthen the connection between their eye and hand, enabling the student to draw spontaneously, energetically and accurately. Designing for theatre is the act of transforming words into visual imagery and drawing is an essential tool in that transformative process. A student who hopes to progress as a designer must simultaneously develop and practice their drawing skills. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 6 Credits

THR 6311 Professional Scenic Design I Cr. 3
Development of rendering techniques and personal aesthetics of scene design. Use of tools, materials, methods and applications for professional presentation of renderings. Studio projects. Offered for graduate credit only. Offered Every Other Winter.
Prerequisite: THR 6000 with a minimum grade of C or THR 6301 with a minimum grade of C
Restriction(s): Enrollment is limited to students in the Department of Theatre and Dance; enrollment limited to students in a Master of Fine Arts degree.
Course Material Fees: $30

THR 6315 Professional Scenic Design II Cr. 3
Continuation of THR 6290 or THR 6311. Advanced study for opera, ballet, children's theatre and divergent genres and styles. Offered Every Other Fall.
Prerequisite: THR 6290 with a minimum grade of C or THR 6311 with a minimum grade of C
Course Material Fees: $30

THR 6321 Professional Costume Design I Cr. 3
Advanced exploration of the principles of costume design as it relates to Western theatrical literature. Offered for graduate credit only. Offered Intermittently.
Prerequisite: THR 6000 with a minimum grade of C or THR 6301 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students in the Department of Theatre and Dance; enrollment limited to students in a Master of Fine Arts degree.
Course Material Fees: $30

THR 6325 Professional Costume Design II Cr. 3
Advanced exploration of elements, genres, and styles of costume design as it relates to Western theatrical literature and conventions. Significant project work and research. Offered Every Other Fall.
Prerequisite: THR 6060 with a minimum grade of C or THR 6321 with a minimum grade of C
Restriction(s): Enrollment is limited to students in the Department of Theatre and Dance; enrollment limited to students in a Master of Fine Arts degree.
Course Material Fees: $30

THR 6331 Professional Lighting Design I Cr. 3
Examination of the responsibilities and skills needed to function as a professional lighting designer. Varied styles of theatrical production, the lighting designer's communication with other professionals, use of computers in lighting design process, graphic presentation of lighting design concepts. Offered Yearly.
Prerequisite: THR 5300 with a minimum grade of C or THR 5335 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students in the Department of Theatre and Dance; enrollment limited to students in a Master of Fine Arts degree.
Course Material Fees: $45

THR 6335 Professional Lighting Design II Cr. 3
Continuation of THR 6090 or THR 6331. Employment of theatrical lighting techniques in non-theatrical applications such as film and video; preparation and presentation of a lighting design portfolio; roles of unions in theatrical lighting design. Offered Every Other Winter.
Prerequisite: THR 5300 with a minimum grade of C or THR 5335 with a minimum grade of C
Course Material Fees: $45

THR 6351 Visual Communication Scenery and Lighting Cr. 2
With a focus on visual communication as a primary tool for collaboration, this course covers various techniques, workflows and professional practices used to develop a stage design from initial concept to final design. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students.

THR 6352 Visual Communication Costumes Cr. 2
This course is designed to help the student develop those skills needed to design costumes for theatrical productions. We will explore various media and rendering techniques as well as script and character analysis. Elements and principles of design will be taught and applied through numerous rendering assignments. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students.

THR 6361 Design Studio I Cr. 2
Studio study and application of graphics which support development and representation of the design idea. Rendering techniques, presentational styles, computer graphics. Offered Winter.
Prerequisite: THR 6000 with a minimum grade of C or THR 6301 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students in the Department of Theatre and Dance; enrollment limited to students in a Master of Fine Arts degree.

THR 6365 Design Studio II Cr. 2
Continuation of THR 6210 or THR 6361. Offered Fall.
Prerequisite: THR 6210 with a minimum grade of C or THR 6361 with a minimum grade of C

THR 6381 Styles of Design Cr. 3
Survey and analysis of theatrical styles of production in European and American theatre, related to historical theory and practice. Research and comparative analysis; some laboratory project work. Offered Winter.
Prerequisite: THR 6000 with a minimum grade of C or THR 6301 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students in the Department of Theatre and Dance; enrollment limited to students in a Master of Fine Arts degree.

THR 6601 Studio I Cr. 2
Examination and analysis of a specific dramatic genre, style or historic period as it relates to acting, directing, or management. Correlative performance or other practical projects. Subject matter coordinated with the repertory of Hilberry Theatre. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students in the Department of Theatre and Dance; enrollment limited to students in a Master of Fine Arts degree.

THR 6605 Stage Management - Health and Safety Cr. 2
Continuation of THR 6010 or THR 6601. Offered Winter.
Prerequisite: THR 6010 with a minimum grade of C or THR 6601 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students in the Department of Theatre and Dance; enrollment limited to students in a Master of Fine Arts degree.

THR 6651 Public Relations and the Arts Cr. 3
Press writing and public relations for arts organizations. Topics include: writing, media relations, controlling public image. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students in the Department of Theatre and Dance; enrollment limited to students in a Master of Fine Arts degree.
Course Material Fees: $10

THR 6661 Marketing the Theatre Cr. 3
Marketing strategies for arts organizations. Topics include: subscription and membership sales, individual ticket sales. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students in the Department of Theatre and Dance; enrollment limited to students in a Master of Fine Arts degree.
Course Material Fees: $10

THR 6671 Interpersonal Dynamics Cr. 2
Relationships between individuals in the work environment; understanding differing behavioral styles amongst employees in the theatre. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students with a class of Candidate Masters; enrollment is limited to students in the Department of Theatre and Dance; enrollment limited to students in a Master of Fine Arts degree.

THR 6675 Board Governance in the Theatre Cr. 2
How boards of directors govern theatres; how dynamics operate between management and boards. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students with a class of Candidate Masters; enrollment is limited to students in the Department of Theatre and Dance; enrollment limited to students in a Master of Fine Arts degree.

THR 6711 World Performance Studies I Cr. 3
Research/studio course examining styles of the late twentieth century to the present; includes spoken word, dance, and multi-media performance art. Introduction to directors and performers such as: Robert Wilson, Spalding Gray, Sekou Sundiata, Robert LePage, Peter Brook. Emphasis on creating ensemble performance work. Offered for graduate credit only. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students in the Department of Theatre and Dance.

THR 7211 Acting Studio III: Advanced Michael Chekhov Technique Cr. 2
Exploration of characterization through study of archetypes, centers, imaginary body, creative individuality, composition of space and connection to the audience. Subject matter will be supported by mask work and the techniques of Jacques LeCoq; and the study of High Comedy. Offered Fall.
Prerequisite: THR 6215 with a minimum grade of C or THR 6020 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $25

THR 7215 Acting Studio IV: Advanced Study of Active Analysis and Physical Approach to Acting Cr. 2
Advanced Stanislavski practices and exploration of other approaches to the study of physical theatre. Subject matter will explore contemporary, post-modern and devised texts. Offered Winter.
Prerequisite: THR 7211 with a minimum grade of C or THR 7050 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $15

THR 7221 Theatrical Movement III: Dance Techniques Cr. 1
Broadway and social dance techniques. Offered Fall.
Prerequisite: THR 6110 with a minimum grade of C or THR 6225 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $25

THR 7225 Theatrical Movement IV - Ensemble Physicality Cr. 1
Viewpoints; ensemble-generated expressive movement. Offered Winter.
Prerequisite: THR 7020 with a minimum grade of C or THR 7221 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $25

THR 7231 Voice and Speech III - Vocalizing Heightened Language & Shakespeare Cr. 1
Application of voice and speech techniques to Shakespeare and heightened language, with additional studies in verse analysis. Offered Fall.
Prerequisite: THR 6100 with a minimum grade of C or THR 6235 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $25

THR 7235 Voice and Speech IV: Musical Theatre & Singing Techniques Cr. 1
Improving the singing voice and applying the work to musical theatre performance. Continuation of Narrow phonetic transcription and Shakespearean phrasing; alliteration, antithesis, inflections, music; developing vocal power. Offered Winter.
Prerequisite: THR 7010 with a minimum grade of C or THR 7231 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $25

THR 7271 Acting for the Camera Cr. 3
Acting technique and practice with an emphasis on developing the technical and emotional adjustments required for success in Film, TV and industry acting. Units include adjusting theatre acting technique for Film and TV; learning to ""hit marks"" and to understand frame sizes; and developing video auditions. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $25

THR 7281 Theatre Aesthetics Cr. 3
Contemporary and classical theories of performance in drama, musical theatre, and dance. Interactions of acting, design, music, dance, script, and audience. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students in the Department of Theatre and Dance.
Course Material Fees: $10

THR 7321 Costume History and Design I Cr. 3
Historical trends in fashion from ancient Egypt to Elizabethan England, as it pertains to theatre arts and its literature. Study of various periods and genres; design of costumes for plays of these periods based on a historical approach. Offered Every Other Winter.
Prerequisite: THR 6000 with a minimum grade of C or THR 6301 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

THR 7325 Costume History and Design II Cr. 3
Continuation of THR 6600 or THR 7321. Historical trends in fashion from Jacobean England through the 21st Century. Offered Every Other Fall.
Prerequisite: THR 6600 with a minimum grade of C or THR 7321 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

THR 7341 Design Skills - Digital I Cr. 2
Students will gain a working knowledge of the fundamental concepts and features needed to master programs in the Adobe Creative Suite widely used by set, lighting, costume and projection designers. This course will cover Photoshop, Illustrator and After Effects. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students.

THR 7381 Architecture and Decor Cr. 3
Historical study of the form and elements of architecture and decoration; emphasis on theatrical design. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $20

THR 7389 Design Internship Cr. 3
Students are involved with the creative process and execution of a design element for a production at a commercial theatre in the Detroit Metro area. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students in a Master of Fine Arts degree.

THR 7581 Repertory Theatre: Acting Cr. 1-4
Supervised experience in the Classic Theatre repertory program. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students in the Department of Theatre and Dance; enrollment limited to students in a Master of Fine Arts degree.
Repeatable for 18 Credits

THR 7582 Repertory Theatre: Design Cr. 1-4
Supervised experience in practical application of design and technology specific to the design and implementation required to produce classical and contemporary theatre in a repertory model. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students in the Department of Theatre and Dance; enrollment limited to students in a Master of Fine Arts degree.
Repeatable for 18 Credits

THR 7583 Repertory Theatre: Stage Management Cr. 1-4
Supervised experience in practical application of stage management techniques and processes required to produce classical and contemporary theatre in a repertory model. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Theatre; enrollment limited to students in a Master of Fine Arts degree.
Repeatable for 18 Credits

THR 7584 Repertory Theatre Management Cr. 1-3
Supervised experience in various management assignments for WSU and for public relations activities for the Theatre Department. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students in the Department of Theatre and Dance; enrollment limited to students in a Master of Fine Arts degree.
Repeatable for 18 Credits

THR 7601 Stage Management - Event Management Cr. 2
Continuation of THR 6020 or THR 6605. Offered Fall.
Prerequisite: THR 6020 with a minimum grade of C or THR 6605 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.

THR 7605 Stage Management - Performance Management Cr. 2
Continuation of THR 7050 or THR 7601. Offered Every Other Winter.
Prerequisite: THR 7050 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students in the Department of Theatre and Dance; enrollment limited to students in a Master of Fine Arts degree.

THR 7651 Leadership in the Arts Cr. 3
Modern leadership skills and techniques in theatre and in external environments. Topics include visioning, team building, consensus building, leadership communications, distinctions and similarities between leadership and management. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students in the Department of Theatre and Dance; enrollment limited to students in a Master of Fine Arts degree.
Course Material Fees: $10

THR 7655 Human Resources and Financial Management for the Arts Cr. 3
Topics include: leadership, group dynamics, staffing, employment and production-related contracts, accounting and budgeting for non-profit. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students in the Department of Theatre and Dance; enrollment limited to students in a Master of Fine Arts degree.
Course Material Fees: $10

THR 7661 Market Data and Decisions in the Arts Cr. 2
Market data and analyzing techniques used in theatre; making informed short-term and long-term decisions. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students in the Department of Theatre and Dance; enrollment limited to students in a Master of Fine Arts degree.
Course Material Fees: $10

THR 7665 Sourcing and Managing Project Funds Cr. 2
Using a theatre project as a collateral source (investment or social enterprise) for financial support; attaining support through sponsorships, grants, personal relationships, and investors in the theatre Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students in the Department of Theatre and Dance; enrollment limited to students in a Master of Fine Arts degree.
Course Material Fees: $20

THR 7671 Funding and Grant writing for the Arts Cr. 3
Fund-raising strategies and the arts. Topics include: individual (annual and planned) giving, corporate giving, grant-making. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students in the Department of Theatre and Dance; enrollment limited to students in a Master of Fine Arts degree.
Course Material Fees: $10

THR 7741 Dramaturgy Cr. 3
Study and preparation of dramatic texts for production; historical, socio-political and theoretical perspectives for production dramaturgy and literary management. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $10

THR 7751 Study Abroad: Directed Study in Russian Theatre Cr. 1-3
Focused studies on Russian theatre, performance, design and production; directed studies in contemporary Russian. Offered Spring/Summer.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students in the Department of Theatre and Dance.
Repeatable for 99 Credits

THR 7891 Seminar: Dramatic Literature Cr. 3
Study of selected dramatic genres, styles, periods, or playwrights. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students in the Department of Theatre and Dance.

THR 7901 Research Methods in Theatre and Dance Cr. 3
Principles and methods of research; use of published research as examples in dance and theatre study and practice. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students in the Department of Theatre and Dance.

THR 7951 Foundations of Theatre and Dance Pedagogy Cr. 3
Historical, philosophical, cultural, and ethical dimensions of teaching and learning in multiple dance and theatre environments. Web course. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students in the Department of Theatre and Dance.

THR 7990 Directed Study Cr. 1-4
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students in the Department of Theatre and Dance.
Repeatable for 4 Credits

THR 7999 Master's Essay Direction Cr. 1-4
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students with a class of Candidate Masters; enrollment is limited to students in the Department of Theatre and Dance; enrollment limited to students in a Master of Arts degree.
Repeatable for 4 Credits

THR 8211 Acting Studio V: Preparation for the Profession Cr. 2
Preparation and development of the professional head shot and resume; creation of personal website, and scene selection for the industry showcase. Subject matter will explore camera acting techniques, utilizing television scripts and screenplays. Offered Fall.
Prerequisite: THR 7215 with a minimum grade of C or THR 7060 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $15

THR 8215 Acting Studio VI: Audition and Composition Cr. 2
Development and execution of the industry showcase; performance and interviews with industry specialists. Subject matter will focus on character types for the individual actor and development of an original solo piece or group devised work. Offered Winter.
Prerequisite: THR 8211 with a minimum grade of C or THR 7110 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students.
Course Material Fees: $25

THR 8221 Theatrical Movement V - Acrobatics Cr. 1
Partner Russian Movement (acrobatics) and etude work. Offered Fall.
Prerequisite: THR 7100 with a minimum grade of C or THR 7225 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students in the Department of Theatre and Dance; enrollment limited to students in a Master of Fine Arts degree.
Course Material Fees: $25

THR 8225 Theatrical Movement VI - Composition and Physical Devising Cr. 1
Physical composition class building on previous techniques, working toward original devised performance pieces. Offered Winter.
Prerequisite: THR 7140 with a minimum grade of C or THR 8221 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students in the Department of Theatre and Dance; enrollment limited to students in a Master of Fine Arts degree.
Course Material Fees: $25

THR 8231 Voice and Speech V: Accents & Dialects for Stage and Media Cr. 1
Studies in analyzing, learning, and performing accents & dialects for stage and film. Offered Fall.
Prerequisite: THR 7090 with a minimum grade of C or THR 7235 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students in the Department of Theatre and Dance; enrollment limited to students in a Master of Fine Arts degree.
Course Material Fees: $25

THR 8235 Voice and Speech VI - Media Techniques Cr. 1
Studies in the techniques needed for performance in voice-overs and camera. Offered Winter.
Prerequisite: THR 7180 with a minimum grade of C or THR 8231 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students in the Department of Theatre and Dance; enrollment limited to students in a Master of Fine Arts degree.
Course Material Fees: $25

THR 8301 Design Studio III Cr. 2
Continuation of THR 6220 or THR 6365. Offered Winter.
Prerequisite: THR 6220 with a minimum grade of C or THR 6365 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students in the Department of Theatre and Dance; enrollment limited to students in a Master of Fine Arts degree.

THR 8305 Design Studio IV Cr. 2
Continuation of THR 7210 or THR 8301. Offered Fall.
Prerequisite: THR 7210 with a minimum grade of C or THR 8301 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students in the Department of Theatre and Dance; enrollment limited to students in a Master of Fine Arts degree.

THR 8580 Advanced Theatre Practicum Cr. 1-2
Public performances in the dramatic productions of the University's Bonstelle Theatre. Credit determined by complexity of dramatic role performed. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students in the Department of Theatre and Dance.
Repeatable for 11 Credits

THR 8581 Advanced Theatre Studio Cr. 1-3
Supervised laboratory practice in technical theatre and theatre management. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students in the Department of Theatre and Dance; enrollment limited to students in a Master of Fine Arts degree.
Repeatable for 3 Credits

THR 8601 Stage Management - AEA Contracts Cr. 2
Continuation of THR 7060 or THR 7605; further practical studies in various theatre crafts. Offered Every Other Fall.
Prerequisite: THR 7060 with a minimum grade of C or THR 7605 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students in the Department of Theatre and Dance; enrollment limited to students in a Master of Fine Arts degree.

THR 8605 Stage Management - Commerce of Theatre Cr. 2
Continuation of THR 7110 or THR 8601; further practical studies in various theatre crafts. Offered Every Other Winter.
Prerequisite: THR 7110 with a minimum grade of C or THR 8601 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students in the Department of Theatre and Dance; enrollment limited to students in a Master of Fine Arts degree.

THR 8651 Entrepreneurship in the Theatre Cr. 3
Elements involved in new theatre development, including business plan, municipal coordination, financing of new projects, creation of a theatre business office, long-term strategic planning, creation of a 501(c)(3), and board development. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students in the Department of Theatre and Dance; enrollment limited to students in a Master of Fine Arts degree.
Course Material Fees: $10

THR 8661 The Media and the Theatre Cr. 2
Writing and working with the media: press releases, public service announcements, magazine queries, radio and television spot writing; using print and electronic media through features and interviews. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students with a class of Candidate Masters; enrollment is limited to students in the Department of Theatre and Dance; enrollment limited to students in a Master of Fine Arts degree.

THR 8665 Managing Groups and Teams Cr. 2
Relationships between teams; how teams can be utilized to improve work performance. Practices used to strengthen confidence in supervisory skills. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students with a class of Candidate Masters; enrollment is limited to students in the Department of Theatre and Dance; enrollment limited to students in a Master of Fine Arts degree.
Course Material Fees: $20

THR 8689 Internships in Theatre Management Cr. 3
Planning and execution of projects in theatre management; evaluation of project effectiveness. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students in the Department of Theatre and Dance; enrollment limited to students in a Master of Fine Arts degree.

THR 8701 Seminar: Performance Studies Cr. 3
Study of performance as an organizing principle for analysis of a wide range of behaviors and situations. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students in the Department of Theatre and Dance.

THR 8711 Seminar: Directing Cr. 3
Discussion of selected topics in directing theory. Development and class presentation of directing concepts for plays in diverse styles, conceived for existing and theoretical theatre spaces; coordination of directing with design. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students in the Department of Theatre and Dance.
Repeatable for 998.99 Credits

THR 8871 Seminar: Dramatic Theory and Criticism Cr. 3
Major documents and principles of dramatic critics and theorists. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students in the Department of Theatre and Dance.

THR 8875 Seminar: Research Topics in Theatre and Drama Cr. 3
In-depth research on selected topics in theatre and dance. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students in the Department of Theatre and Dance.

THR 8901 Seminar: Theatre History Cr. 3
Selected topics in theatre history. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students in the Department of Theatre and Dance.

THR 8941 Teaching Internship I Cr. 3
Assisting faculty members in teaching first-semester undergraduate-level courses. Offered Fall.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students in the Department of Theatre and Dance; enrollment limited to students in a Master of Fine Arts degree.

THR 8945 Teaching Internship II Cr. 3
Assisting faculty members in teaching second-semester undergraduate-level courses. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students in the Department of Theatre and Dance; enrollment limited to students in a Master of Fine Arts degree.

THR 8951 Art and Human Development Cr. 3
Integrated approaches to the arts for early childhood, youth and adolescents, and older adults. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students in the Department of Theatre and Dance.

THR 8961 Artistic Praxis Cr. 3
Research and analysis of artistic practice leading to informed action; particular emphasis on the role of critical reflection in aesthetic development and evaluation of outcomes. Web class. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students in the Department of Theatre and Dance.
Repeatable for 6 Credits

THR 8965 Principles of Teaching Artistry Cr. 3
Research-based seminar on aspects of management administration, integrated arts, and assessment in multiple dance and theatre teaching artist environments. Web course. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students in the Department of Theatre and Dance.
Repeatable for 6 Credits

THR 8991 MFA Management Exit Project Cr. 1-3
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students in the Department of Theatre and Dance; enrollment limited to students in a Master of Fine Arts degree.

THR 8992 MFA Design Exit Project Cr. 2
Demonstration in the specific design area in the skills developed by the student designer. Portfolio presentation developed in consultation between the student and the design area advisor. Offered Winter.
Prerequisite: THR 6000 with a minimum grade of C or THR 6301 with a minimum grade of C
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students in the Department of Theatre and Dance; enrollment limited to students in a Master of Fine Arts degree.

THR 8995 MFA Acting Exit Project Cr. 3
Course designed to bridge from academia to the professional world. Selection, research and execution of seven monologues from a variety of period texts; development of a professional website; research and documentation of the artist's job market in a chosen geographic area. The course culminates in a final Oral Examination by each student's M.F.A. Exit Committee. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students in the Department of Theatre and Dance; enrollment limited to students in a Master of Fine Arts degree.

THR 8998 MFA Theatre Management Exit Project Cr. 3
Course designed to bridge from academia to the professional world. Development of a professional website and portfolio; research and documentation of the manager's job market in a chosen geographic area. The course culminates in a final Oral Examination by each student's M.F.A. Exit Committee. Offered Winter.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students in the Department of Theatre and Dance; enrollment limited to students in a Master of Fine Arts degree.

THR 8999 Master's Thesis Research and Direction Cr. 1-8
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students with a class of Candidate Masters; enrollment is limited to students in the Department of Theatre and Dance; enrollment limited to students in a Master of Arts degree.
Repeatable for 8 Credits

THR 9990 Pre-Doctoral Candidacy Research Cr. 1-8
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment is limited to students with a major in Theatre; enrollment limited to students in a Doctor of Philosophy degree.
Repeatable for 12 Credits

THR 9991 Doctoral Candidate Status I: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students with a class of Doctoral Candidate; enrollment is limited to students with a major in Theatre; enrollment limited to students in a Doctor of Philosophy degree.

THR 9992 Doctoral Candidate Status II: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: THR 9991 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students with a class of Doctoral Candidate; enrollment is limited to students with a major in Theatre; enrollment limited to students in a Doctor of Philosophy degree.

THR 9993 Doctoral Candidate Status III: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: THR 9992 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students with a class of Doctoral Candidate; enrollment is limited to students with a major in Theatre; enrollment limited to students in a Doctor of Philosophy degree.

THR 9994 Doctoral Candidate Status IV: Dissertation Research and Direction Cr. 7.5
Offered Every Term.
Prerequisite: THR 9993 with a minimum grade of S
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students with a class of Doctoral Candidate; enrollment is limited to students with a major in Theatre; enrollment limited to students in a Doctor of Philosophy degree.

THR 9995 Candidate Maintenance Status: Doctoral Dissertation Research and Direction Cr. 0
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students with a class of Doctoral Candidate; enrollment is limited to students with a major in Theatre; enrollment limited to students in a Doctor of Philosophy degree.
Course Material Fees: $370.26
Repeatable for 0 Credits

UGR - UNDERGRADUATE RESEARCH

UGR 1050 Research Methods - BUILD Scholars Cr. 1
A one-semester course that is part of the BUILD program and is designed to help students prepare for the Research-based laboratory courses BUILD Scholars will take in the Winter Term. Offered Fall.

UGR 1100 Wayne Med Direct Summer Research Program Cr. 3
Designed to provide a basic science research experience. Successful completion of this course is mandatory for all scholars as a part of the Wayne Med-Direct program. Offered Spring/Summer.
Prerequisite: UGR 1050 with a minimum grade of D-

UP - URBAN PLANNING

UP 3530 Urban and Regional Planning Cr. 3
Introduction to urban and regional planning concepts, including zoning, growth management and economic development. Emphasis on metropolitan Detroit. Offered Yearly.
Prerequisites: US 2000 with a minimum grade of D-
Equivalent: US 3530

UP 4460 Sustainable Cities Cr. 3
Through the lens of the planner's triangle of Environmental preservation, Equity, and Economic growth—the 3-Es of sustainability—this course explores the ways in which the natural world affects and is affected by both growing and shrinking cities, and how cities may manage growth, shrinkage, or redevelopment to create a more green, just, and prosperous urban future. Offered Fall.

UP 5010 Resources and Communication in Planning Cr. 3
Introduction to the use of basic tools and techniques of professional planning practice, including data resources, computer applications, map and plan preparation, presentation techniques. Offered Yearly.
Restriction(s): Enrollment limited to students with a class of Applicant Masters, Candidate Masters, Unranked Grad, Graduate Certificate or Post Bachelor.

UP 5110 Urban Planning Process Cr. 3
Scope and historical development of planning. Topics relevant to the practice of planning: theory, planning practice, social and physical development policy. Offered Yearly.
Restriction(s): Enrollment limited to students with a class of Applicant Masters, Candidate Masters, Unranked Grad, Graduate Certificate or Post Bachelor.

UP 5430 Cities and Food Cr. 3
Analysis of urban food systems for their social, economic, health and environmental impacts; discussion of strategies to develop sustainable alternatives. Offered Winter.

UP 5650 Metropolitan Detroit Cr. 3
Comprehensive analysis of metropolitan Detroit: city, suburbs and surrounding region. Historical development, physical foundations, economic and political expansion, ethnic and cultural areas, geopolitical infrastructure, social change, present-day problems and current events shaping the area's spatial structure. Offered Yearly.
Equivalent: GPH 5650

UP 5670 Modern American Cities Cr. 3
History of U.S. cities since World War II. Topics include suburbanization, deindustrialization, gentrification, and globalization. Offered Intermittently.
Equivalent: HIS 5670

UP 5820 Urban and Regional Economics Cr. 4
Introduction to the economic foundations of urban problems; land use, housing, poverty, transportation, local public finance; regional industry mix, income, growth and development; the national system of cities and location of firms. Offered Yearly.
Restriction(s): Enrollment limited to students with a class of Applicant Masters, Candidate Masters, Unranked Grad, Graduate Certificate or Post Bachelor.
Equivalent: ECO 5800

UP 5999 Special Topics Cr. 1-4
Offered for graduate credit only. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students with a class of Applicant Masters, Candidate Masters, Unranked Grad, Graduate Certificate or Post Bachelor.
Repeatable for 8 Credits

UP 6120 Planning Studies and Methods Cr. 4
Economic base, population, and land use studies. Discussion of approaches used to solve selected community development problems. Offered Yearly.
Restriction(s): Enrollment limited to students with a class of Applicant Masters, Candidate Masters, Unranked Grad, Graduate Certificate or Post Bachelor.

UP 6210 Urban Design Elements Cr. 3
Introduction to the role of urban design and the concept of design criteria, design variables, and terminology. Offered Every Other Year.
Restriction(s): Enrollment limited to students with a class of Applicant Masters, Candidate Masters, Unranked Grad, Graduate Certificate or Post Bachelor.

UP 6260 Land Use Policy and Planning Cr. 3
Role of economics, history, and technology in shaping land use patterns within limits established by public policies and the legal system. Development of conceptual and practical skills for effective ethical intervention in local land markets. Offered for graduate credit only. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students with a class of Applicant Masters, Candidate Masters, Unranked Grad, Graduate Certificate or Post Bachelor.

UP 6310 Real Estate Development Cr. 3
Process of urban real estate development; emphasis on market analysis, the construction process, and finance. Offered Yearly.
Restriction(s): Enrollment limited to students with a class of Applicant Masters, Candidate Masters, Unranked Grad, Graduate Certificate or Post Bachelor.

UP 6320 Quantitative Techniques I Cr. 4
Statistical inference with emphasis on applications including central tendency, dispersion, hypothesis testing, correlation and regression. Offered Yearly.
Restriction(s): Enrollment limited to students with a class of Applicant Masters, Candidate Masters, Unranked Grad, Graduate Certificate or Post Bachelor.
Equivalent: GPH 6420

UP 6340 Community Development Cr. 3
Overview of contemporary community development practice in U.S. cities with emphasis on community-based approaches and the role of non-profit organizations. Housing and economic development aspects of neighborhood revitalization; social and political development. Offered for graduate credit only. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students with a class of Applicant Masters, Candidate Masters, Unranked Grad, Graduate Certificate or Post Bachelor.

UP 6350 Housing Policy and Programs Cr. 3
Governmental housing policies and programs at the Federal, state and local levels. Role of community-based organizations in housing activities. Offered Yearly.
Restriction(s): Enrollment limited to students with a class of Applicant Masters, Candidate Masters, Unranked Grad, Graduate Certificate or Post Bachelor.

UP 6455 Discrimination and Fair Housing Cr. 3
Multidisciplinary investigation into the nature, motivations, consequences, and legal/public policy implications of racial/ethnic discrimination in housing and related markets in U.S. metropolitan areas. Offered Every Other Year.
Restriction(s): Enrollment limited to students with a class of Applicant Masters, Candidate Masters, Unranked Grad, Graduate Certificate or Post Bachelor.
Equivalent: AFS 6455, ECO 6455, PS 6455, SOC 6455, US 6455

UP 6470 Environmental Planning Cr. 3
Overview of local and regional environmental planning and policy. Rationale and ethics of environmental interventions; major elements of environmental plans and impact statements; current approaches to environmental problems. Offered for graduate credit only. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students with a class of Applicant Masters, Candidate Masters, Unranked Grad, Graduate Certificate or Post Bachelor.

UP 6510 Urban and Regional Systems Cr. 3
Theory course dealing with concepts, processes and organization of urban and metropolitan regions, primarily focusing on the western world experience. Primary focus on system structure and change in response to market forces, technology, and public policy. Offered Yearly.
Restriction(s): Enrollment limited to students with a class of Applicant Masters, Candidate Masters, Unranked Grad, Graduate Certificate or Post Bachelor.

UP 6520 Transportation Policy and Planning Cr. 3
Introduction to the role of transportation in the planning process involving both regional and urban considerations. Offered Yearly.
Restriction(s): Enrollment limited to students with a class of Applicant Masters, Candidate Masters, Unranked Grad, Graduate Certificate or Post Bachelor.

UP 6550 Regional, State, and Urban Economic Development: Policy and Administration Cr. 3
Examination of regional, state, and local economic development theory, analysis, policy and administration. Offered for graduate credit only. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students with a class of Applicant Masters, Candidate Masters, Unranked Grad, Graduate Certificate or Post Bachelor.
Equivalent: ECO 6650, PS 6440

UP 6570 Local Economic Development: Implementation and Finance Cr. 3
Detailed examination of economic development programs available to local governments for commercial revitalization (neighborhood and downtown), and industrial development and redevelopment. Offered for graduate credit only. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students with a class of Applicant Masters, Candidate Masters, Unranked Grad, Graduate Certificate or Post Bachelor.

UP 6650 Planning and Development Law Cr. 3
Techniques available to guide land development. Concepts in zoning, subdivision regulations, timing and sequence of land development. Offered Yearly.
Restriction(s): Enrollment limited to students with a class of Applicant Masters, Candidate Masters, Unranked Grad, Graduate Certificate or Post Bachelor.

UP 6680 Neighborhood Decline and Revitalization Cr. 3
Examination of reasons for neighborhood change and how plans and policies can be specified and implemented for neighborhood improvement. Offered for graduate credit only. Offered Every Other Year.
Restriction(s): Enrollment limited to students with a class of Applicant Masters, Candidate Masters, Unranked Grad, Graduate Certificate or Post Bachelor.

UP 6700 Geographic Information Systems Cr. 4
Principles and applications of GIS, including spatial statistics, computer graphics, computer cartography. Offered for graduate credit only. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students with a class of Applicant Masters, Candidate Masters, Unranked Grad, Graduate Certificate or Post Bachelor.

UP 6750 State and Local Public Finance Cr. 4
Theory and practice of state and local government taxation and expenditure. Attention devoted to State of Michigan and municipalities in Detroit metropolitan area. Topics include: government organization, voting and mobility models, property and sales taxes, user charges, grants, education expenditure, and economic development. Offered Yearly.
Restriction(s): Enrollment limited to students with a class of Applicant Masters, Candidate Masters, Unranked Grad, Graduate Certificate or Post Bachelor.
Equivalent: ECO 6520

UP 6830 Advanced GIS Applications Cr. 4
Use of GIS for spatial analysis and computer cartography. Offered for graduate credit only. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students with a class of Applicant Masters, Candidate Masters, Unranked Grad, Graduate Certificate or Post Bachelor.

UP 7000 Detroit Revitalization Project Cr. 0
Employment placements in Detroit public and private institutions and companies for the purpose of workshop experience in practical solutions to urban and community revitalization. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.

UP 7010 Planning and Decision Theory Cr. 3
Review of political, ethical, professional dimensions of planning; models of planning; communicative and group processes; negotiation and conflict resolution; decision-making in contexts characterized by uncertainty and complexity. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.

UP 7030 Class, Race, and Politics in America Cr. 3
Historical and analytic investigation into the role of class and race in American politics. Offered Intermittently.
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: AFS 6100, HIS 5110, PS 6050, SOC 7330

UP 7260 Urban Poverty and Racial Segregation Cr. 3
Review of theories of poverty from various economic/political perspectives; historical intervention policies; current literature on interplay of racial, economic, and spatial factors on growing economic inequality among urban whites and African-Americans. Political rationale and meaning of the underclass debate. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.
Equivalent: AFS 6600, ANT 7260, PS 7260, SOC 7350

UP 7500 Master's Professional Report Cr. 3
Applies the skills and competencies learned in the program on a project of the student's choosing. Under the close guidance of a MUP faculty member, the student will study a planning topic, issue, or community project and write a professional report based on this study with implications for local practice/policy. The goal is that the student demonstrate an understanding of urban planning theory and practice, public policy and planning processes, analytical techniques, and appropriate professional writing and analysis skills. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.

UP 7700 Projects in Urban Planning Cr. 4
Development and application of research design to specified urban problems. Offered Every Other Year.
Restriction(s): Enrollment is limited to Graduate level students.

UP 7800 Internship in Planning Cr. 1-3
Practicum for MUP Program. Field placement with public or nonprofit agency assigned by Urban Planning Intern Coordinator. Offered Yearly.
Restriction(s): Enrollment is limited to Graduate level students.

UP 7810 Internship in Community Food Systems Planning Cr. 3
Practicum in community food systems planning. Field placement with public or nonprofit agency or private firm assigned by the Urban Planning Intern Coordinator. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.

UP 7990 Directed Study Cr. 1-4
Independent reading and research. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 8 Credits

UP 7996 Research Topics Cr. 1-4
Individual problems in urban planning. Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students.
Repeatable for 6 Credits

UP 7999 Master's Essay Direction Cr. 3
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students with a class of Candidate Masters.

UP 8999 Master's Thesis Research and Direction Cr. 1-8
Offered Every Term.
Restriction(s): Enrollment is limited to Graduate level students; enrollment limited to students with a class of Candidate Masters.
Repeatable for 8 Credits

US - URBAN STUDIES

US 2000 Introduction to Urban Studies Cr. 4
Satisfies General Education Requirement: Social Inquiry, Social Sciences
Urban phenomena both past and present, including the quality and nature of urban life; major concerns of urban areas; perspectives and techniques of various urban-related disciplines. Offered Every Term.
Equivalent: GPH 2000, HIS 2000, PS 2000, SOC 2500

US 2350 Black Detroit Cr. 3
Satisfies General Education Requirement: Diversity Equity Incl Inquiry
Explores the historical, cultural and structural aspects of the Black urban experience in Detroit from the late 19th Century to the present, including the role that racism, urbanization and suburbanization have played in shaping racial, spatial and economic inequality in the Detroit Metropolitan area. Utilizes an interdisciplinary approach: to interrogate the social and cultural history of Black Detroit, to examine the various forms of Black social movement activism used by Black Detroiters in the 20th Century, and to analyze ways the shifting economic and political currents shaped, and reshaped racism, class, space, and resistance in the Detroit metropolitan area. Offered Fall, Winter.
Equivalent: AFS 2350, HIS 2350

US 3530 Urban and Regional Planning Cr. 3
Introduction to urban and regional planning concepts, including zoning, growth management and economic development. Emphasis on metropolitan Detroit. Offered Yearly.
Prerequisites: US 2000 with a minimum grade of D-
Equivalent: UP 3530

US 3550 Geography and Public Health Cr. 3
Introduces the field of medical geography, or the study of geographic aspects of health and disease. Students will gain an understanding of how geography as a discipline contributes to an understanding health and health care, and how social and economic contexts impact health. Students will utilize mapping techniques to examine the spatial patterns of disease and risk factors that may contribute to disease. Offered Yearly.
Equivalent: PH 3550

US 3650 History of Detroit Cr. 3
Satisfies General Education Requirement: Diversity Equity Incl Inquiry
History of Detroit from European contact to the present, with emphasis on the late-19th and 20th centuries. Offered Fall, Winter.
Equivalent: HIS 3650

US 4420 Methods for Urban Studies Cr. 4
Introduction to relevant data sources, such as the U.S. Census, American Community Survey, and County Business Patterns; presentation of quantitative and spatial data using geographic information systems and spatial mapping; introduction to basic statistics for use in urban studies. Offered Yearly.
Prerequisite: US 2000 with a minimum grade of C- or SOC 2500 with a minimum grade of C- or GPH 2000 with a minimum grade of C- or HIS 2000 with a minimum grade of C- or PS 2000 with a minimum grade of C-
Restriction(s): Enrollment is limited to Undergraduate level students.

US 4510 Cities and Regions Cr. 3
Processes of urbanization and metropolitanization in both the western and non-western worlds. Offered Winter.
Prerequisites: US 2000 with a minimum grade of D- or GPH 2000 with a minimum grade of D- or HIS 2000 with a minimum grade of D- or PS 2000 with a minimum grade of D- or SOC 2000 with a minimum grade of D-

US 4620 Urban Studies Senior Capstone Research Cr. 3
Satisfies General Education Requirement: Writing Intensive Competency
Development and application of research design to specified urban problems. Offered Yearly.
Prerequisites: US 4420 with a minimum grade of D- or GPH 6420 with a minimum grade of D- or CRJ 4860 with a minimum grade of D- or SOC 4200 with a minimum grade of D- or PS 3600 with a minimum grade of D-
Restriction(s): Enrollment is limited to Undergraduate level students.

US 6000 Internship Cr. 1-4
Placement in government agencies or the non-governmental sector that provide working experience related to urban issues. Offered for undergraduate credit only. Offered Every Term.
Restriction(s): Enrollment is limited to Undergraduate level students.
Repeatable for 4 Credits

US 6455 Discrimination and Fair Housing Cr. 3
Multidisciplinary investigation into the nature, motivations, consequences, and legal/public policy implications of racial/ethnic discrimination in housing and related markets in U.S. metropolitan areas. Offered Every Other Year.
Equivalent: AFS 6455, ECO 6455, PS 6455, SOC 6455, UP 6455

FACULTY A-Z

A list of university librarians and archivists (http://bulletins.wayne.edu/faculty/#lib) follows the list of faculty.

The list of faculty is updated during the normal bulletin revision process. Requests to update the faculty database must be made using the faculty list amendment forms (http://bulletins.wayne.edu/faculty/update).

A

AARON, CYNTHIA: M.D., Medical College of Pennsylvania; B.A., Wesleyan University; Professor (Clinician-Educator), Emergency Medicine, Pediatrics

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ABBOTT, VALERIE: M.D., Ohio State University; B.S., University of Michigan; Clinical Assistant Professor, Pediatrics, Internal Medicine

ABBRECHT, MARTIN M.: M.D., University of Michigan; Clinical Assistant Professor, Dermatology

ABDALLAH, KHALED: M.B.B.S., Jordan University of Science and Technology; Clinical Assistant Professor, Radiology

ABDELRAHMAN, ANAN ADIB: M.B., Ain Shams University; Clinical Assistant Professor, Obstetrics and Gynecology

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ABDULHAMID, IBRAHIM: M.D., Garyounis University; M.S., Ohio State University; Associate Professor (Clinician-Educator), Pediatrics

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ABEL, ERNEST L.: Ph.D., M.A., B.A., University of Toronto; Professor Emeritus, Psychology, Obstetrics and Gynecology

ABERLE, BELINDA: M.S.N., University of Michigan; B.S.N., Boston University; Instructor (Clinical), Nursing

ABIANEH, OMID SAMIMI: Ph.D. and M.S., University of Alabama-Huntsville; Assistant Professor, Mechanical Engineering

ABRAHAM, FLOMMY: M.D., Catholic University of Lilly; Clinical Assistant Professor, Pediatrics

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ABRAMOWICZ, SARAH: J.D., Ph.D., Columbia University; B.A., Stanford University; Associate Professor, Law

ABRAMS, GARY: M.D., University of Oklahoma; Professor, Ophthalmology

ABRAMS, JUDITH: Ph.D., George Washington University; M.S., Rutgers University; B.A., Michigan State University; Professor, Oncology (Cancer Biology)

ABRAMSON, HANLEY N.: Ph.D., M.S., University of Michigan; B.S., Wayne State University; Professor, Pharmaceutical Sciences

ABT, JEFFREY: M.F.A., B.F.A., Drake University; Professor, Art

ABU-SOUD, HUSAM: Ph.D., Wivehoe University; B.Sc., Kuwait University; Associate Professor, Obstetrics and Gynecology

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ACKERMAN, ROBERT M.: J.D., Harvard University; B.A., Colgate University; Professor, Law

ACKERMAN, SHARON H.: Ph.D., M.S., New York University; B.S., George Washington University; Associate Professor, Biochemistry and Molecular Biology

ADAMO, DIANE: Ph.D., University of Michigan; M.S., B.S., Wayne State University; Associate Professor, Physical Therapy

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